POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD(PAEDIATRICS) PART 11 EXAMINATION
JANUARY, 1990

Date:- 2nd January, 1990 Time : 9.00 a.m.-12.00 noon

PAPER 1

CASE HISTORIES

Answer all questions.
Answer each part in a separate book.

PART A

1. A previously-well fifteen year old girl had developed tiredness in association with mild fever and a sore throat 6 months earlier. She felt fully recovered while on holiday in the following month but since then had marked lethargy, with intermittent sore throat, possible fever, a dry cough and anorexia with weight loss estimated at 14-21 lbs. In the last 3 weeks she developed mild difficulty in swallowing both solids and liquids, which seemed to stick at pharyngeal level, and had vomited once each day. In addition she had bouts of central upper abdominal pain lasting for 5-10 minutes usually occurring during eating. The pain did not wake her at night but she was sleeping poorly and had night sweats. She felt dizzy on standing and had much muscle aching. She had had no periods for 4 months, her previous menstrual cycles having been regular.

   Systematic enquiry revealed no other features of note. It was not clear how frequently she had been febrile but in the 3 days before referral her temperature had been recorded as 38 C in the morning rising to 39.5C in the evening.

   Her previous medical history and family history were unremarkable. She had had no known contact with infectious disease except one class mate who had glandular fever 3 months previously. She had received all routine immunizations including BCG in the newborn period. Tuberculin testing performed routinely by the school health service at 13 years of age was positive.

   She lived at home with her sister, mother and step father. All were in good health as was her father whom she saw infrequently. Her mother was a civil service executive, her step-father a self-employed civil engineer.

Clinical Examination showed a very ill looking girl with much evidence of recent weight loss. Her weight was 44 kg(3% le)her height 164 cms(50%le). Abnormal physical signs were mild rhinitis and pharyngitis with non-tender tonsillar glands approximately 1.5 cms in diameter with no generalised lymph gland enlargements. She had an infrequent dry cough.
Her abdomen moved freely on respiration but was tender on palpation. There was no masses or organomegaly.

The following investigation results were available:

Haemoglobin 10.3gms with slightly reduced red cell indices.
Iron low at 6.3
Total white count 4,800 with 82% neutrophils
11% lymphocytes,
4% monocytes,
3% eosinophils.

This white cells showed marked toxic granulation and left shift.

The red cells showed anisocytosis, were small and hypochromic.
The platelet count was 535,000.

ESR 62 mm in the first hour

Serum immunoglobulins IgG, IgA and IgM were within the normal range

Liver Function Tests :		Normal range.
Total Protein	54gms/L	(60 - 80)
Albumin	34 gms/L	(35 - 50)
Bilirubin	7 umol/L	(3 - 20)
Alkaline Phosphatase	217 IU/L	(100-300)
AST	20 IU/L	(10 - 50)
Gamma GT	79 IU/L	(10 - 50)

Urinanalysis was normal and culture sterile.

Throat swab culture grew haemolytic streptococcus.

She had serological evidence of past infection with influenza A, Adenovirus, cytomegalovirus, varicella zoster and Ebstein Barr virus.

A tuberculin skin test (Tine) was positive, Grade 1 to 2.

Chest x-ray : some patchy infiltrate in the left upper zone but no other abnormality.

Sinus x-ray: mucosal thickening in the right antrum.

A barium swallow: no impairment of swallowing with contrast flowing freely down the oesophagus with no intrinsic or extrinsic abnormality. There was no hiatus hernia but mild gastro-oesophageal reflux. The stomach and duodenum were normal.

a) What conditions would you consider in differential diagnosis ?

b) Indicate with reasons the order in which you would plan further investigation.

c) Describe briefly the principles of management of the most likely diagnosis?

2. An eight year old boy presented with a 5 month history of episodes of abdominal pain. Each episode of pain lasts about 20 minutes. There are 3-4 episodes per day. The pain was not clearly related to eating, defaecation or voiding. On 2 occasions the pain had wakened him. When the pain is present he tends to be quiet. There are no other observed abnormalities. 10 months la-go he had an episode of diarrhoea, vomiting and fever, lasting 3 days, with similar episodes recurring 7 and 4 months before referral. On each occasion an antibiotic had been given. His stool frequency at presentation was between 1 and 3 per day. There have been no blood or mucus in the stool. He does observe in the stools material that looks like undigested food. He had lost 1.5 kg in weight since the onset of abdominal pain.

One month before referral his haemoglobin was 10.6gms/dl. The total white count was 14,000 with 58% neutrophils, 32% lymphocytes, 6% monocytes, 2% eosinophils and 1% basophils. There was a left shift of the neutrophils.

The ESR was 47 mm in the first hour.

He had 2 episodes of ear infection in the past. His growth and development had been normal. There was no family history of note. He had no known contact with infectious disease.

On examination he was pale, but well nourished. He indicated that his pain had occurred in all 4 quadrants of the abdomen. The abdomen moved freely with respiration. There was mild guarding and tenderness in both iliac fossa but no masses or, organomegaly. Rectal examination was normal with soft faeces. There were no abnormalities on examination of other systems.

His height was 127cm.s(50-75%le), the weight 23.5kg(25%le).

His haemoglobin was 9.8gms/dl with a reticulocyte count of less than 1%. The red cells were microcytic and hypochromic. The total white count was 11,100 with 66% neutrophils, 26% lymphocytes, 5% monocytes, 2% eosinophils and 1% basophils. There was a left shift of the neutrophils.

The ESR was 55mm in the first hour.

a) List in order of probability conditions which should be considered in differential diagnosis.

b) In what order would, you initiate investigations to determine the cause of abdominal pain ?

c) Outline the management of the most likely diagnosis.

PART B

An 18 months old baby was admitted with a history of a generalised convulsion lasting 45 minutes following a fever of 2 days duration. She is the last of a family of 4 children with no consanguinity. She was born by a normal vaginal delivery following a normal pregnancy. The neonatal period was uneventful. Her 3 year old brother had 2 episodes of generalised convulsions. The family live among the fisihing community in Negombo. The father earns about Rs.2000/- p.m.

On examination the child responded to deep pain. She was moderately pale. The liver and spleen were not enlarged. No lumps were felt in the abdomen except for some faecal masse. The throat was slightly congested.

Investigations.

Haemoglobin 6.2g%
W.B.C. 8800 c/cmm D.C. Polys. 55% Lympho. 40% Eosinoph. 5%Platelet count 250000/cmm
Blood urea 35mgs%
C.S.F. Proteins 60 mgs%
Sugar 75 mgs.%
Cells Poly. 0 Lymph I
Random blood sugar 95 mgs%

a) What is the probable diagnosis, Give reasons.

b) Mention the principles of management.

4. A 5 year old boy was transferred from a provincial hospital with a history of haemetemisis and melena of three days duration. He has had 5 similar episodes since the age of 18 months requiring repeated blood transfusions. He has had no abdominal pain and gives no history of ingestion of Aspirin. He is the 3rd child in a family of 4 and there is no history of consanguinity. His neonatal period was uneventful.

On examination he was pale, the abdomen was distended, not tender. The liver was felt 3 cms. Below the costal margin and the spleen 8 cms below the costal margin. There were no other abnormal physical signs detected clinical in the child.

Investigations . Haemoglobin 5.4 gms %
Serum Bilirubin 1.1 mg%
S.G.O.T. 7 i.u.
S.G.O.T. 17 i.u.
Alkaline phosphata'se 13.4 K.A.U,
Serum proteins total 5.8 gms/L
Albumin 3.5 G/L
Globulin 2.3 G/L
Bleeding time 8 mins.
Clotting time 5 mins
Prothrombin time normal.
Total white cell count 4.400 c/cmm.
Differential count poly. 66%
Lymp. 23%
Platelet count 145000
Retic count 5%

a) What has caused the haemetemisis ?

b.) What investigations would you do to confirm this ?

c) Give three possible pathological causes

d) What investigations would you do to identify the cause ?

e) Out-line the principles of management of this patient.

A 36 year old lady in her 5th pregnancy presented at the 27th week with rupture of membranes. The previous 4 pregnancies had ended in abortions. During the present pregnancy her blood pressure was normal and she had no oedema.

A Caesarean section was performed and a live baby of 85ogms was delivered. The apgar Score at I minute was 10 and at 5 minutes was 10.
At 24 hours of age the baby developed prolonged and frequent apnoeic attacks for which, he had to be ventilated mechanically. At day 5 he developed a tachy-cardia while the blood gases were maintained within normal limits. At this time a systolic murmur was noted over the precordium. He was weaned off the ventilator on the 10th day and he made an uneventful recovery. At 6 weeks his Hb. dropped to 8.5gms%.

On discharge from the neonatal unit at 7 weeks his weight was 1.5kg. At the follow up clinic at 10 weeks his Hb was 8.16 gms%. At the age of 3 months the child was found to be tachypnoeic with intercostal and subcostal reccession but feeding well and afebrile. He was alert and active. The weight was 2.5kg. The cardiovascular system was clinically normal.

X-ray chest at this stage showed bilateral diffuse non confluent opacities with cystic areas. He was admitted to hospital for further investigations.

a) What are the probable diagnoses of the present condition ?

b) Mention briefly the aetiological factors responsible for his problems since birth.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD(PAEDIATRICS) PART II EXAMINATION
JANUARY,1990

Date :- 1st January, 1990 Time :- 2.00 p.m - 5.00 p.m

PAPER II

STRUCTURED QUESTIONS

Answer all Five questions.
Answer each part in a separate book.

PART A

1.

(a)

i) Describe briefly the structure of the von Willebrand factor.

ii) In which parts of the body is it normally found ?

iii) What are its 2 main functions ?

(b)

i) What are the 2 main types of von Willebrand's disease ?

ii) How is von Willebrand's disease inherited ?

iii) What methods of treatment are available for von Willebrand's disease ?

2.

(a)

i) Give a currently accepted method of staging of Hodgkin's disease. ?

ii) What are the 4 histopathologic subtypes of Hodgkin's disease ?

iii) What is the most common histopathologic subtype in children ?

iv) What is generally accepted as the malignant cell in Hodgkin's disease ?

(b)

i) Name 5 features which indicate a bad prognosis in children with acute lymphoblastic leukaemia (ALL)

ii) What proportion of children with ALL have the common ALL antigen ?
What is its significance ?

iii) What is the optimal treatment for testicular relapse ?

iv) In which children with ALL would you consider bone marrow transplantation ?

A full term well grown infant failed to establish respiration at birth requiring ventilation for 15 minutes and had an Apgar score of 3 at 20 minutes.

(a) What are the immediate sequelae ?

(b) What measures should be considered to minimise complications ?

(c) What is the long term prognosis ?

PART B

An infant presents with CHD (Congenital Heart Disease)

(a) What important developments in both invasive and non-invasive techniques will help in accurate diagnosis ?

(b) What conditions may be diagnosed with echocardiography ?

(c) Three lesions present in the neonatal period are potentially correctable; hence early recognition is mandatory, yet all of them often have no heart murmurs. Give a short description of these lesions.

(d) How will you manage transposition of great arteries with intact ventricular septum?

(a) What are the diagnostic features of neurofibromatosis ?

(b) What complications may occur ?

(c) What genetic counseling would you offer ?

POSTGRADUATE INSTITUTE OFMEDICINE
UNIVERSITY OF COLOMBO

MD(PAEDIATRICS) PART II EXAMINATION
JANUARY , 1990

Date :- 2nd January , 1990 Time:- 2.00 p.m. - 3. 00 p. m.

PART III

ESSAY

Write an essay on any one of the following:

1. Describe existing facilities for handicapped children in Sri Lanka and suggest how these could be improved.

2. What is the present role of the Family Health Worker in the Child Health Care System in Sri Lanka ? What recommendations would you make to enhance their contribution to child health ?

3. What practical steps would you suggest to overcome difficulties in implementing paediatric aspects of the W.H.O. programme for primary health care in Sri Lanka ?

POSTGRADUATE IINSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD(PAEDIATRICS)] PART 11 EXMIMATIOM
JANUARY , 1991

Date :- 8th January 1991 Time : 2.00 p.m. - 5.00 p.m.

PAPER 1

CASE HISTORIES

Answer all questions.
Answer each part in a separate book.

PART A

1. A baby born to parents of normal stature at full term weighing 2000g was found to have hepatosplenomegaly with petechliae. Coagulation studies were normal but the platelet count was 75,000 per cubic mm. The baby fed normally. No treatment was given and it was discharged home with its mother. The petechiae resolved over one week during which the platelet count rose to 180,000 per cubic mm.

   a. What investigations would you perform ?

   b. What is likeliest explanation ?

   At out-patient review 4 months later the height and length were on the 25th centile; he head circumference <3rd centile. The baby is not vocalising normally; there is truncal hypotonia; it has just started smiling. Abdominal examination normal.

   c. What is the likeliest explanation of the physical findings ?

   d. What other impairments should be sought ?

   e. The parents ask what immunisations should be given in view of your findings.

   f. What is the likely implication for education and independent living ?

A five year old boy was referred because of steroid non-responsive nephrotic syndrome. He had first presented one month previously with oedema, proteinuria and hypo-albuminaemia and had been treated with daily oral prednisolone 2mg/kg, intermittent diuretics and a high protein, low salt diet with "restricted fluids". Despite this he had continued with oedema, proteinuria and had developed thirst.

On examination he was cushingoid and there was minimal pitting oedema to the shins. Blood pressure 85/60
surface area = 0.865 m2

INVESTIGATIONS

BLOOD HAEMATOLOGY
Hb = 18g/dl
Hct = 52%
WBC, Platelets = normal
24 HOUR- URINE - No diuretics had been given for 48hrs.
Na = 2 mmol
K 40 mmol
Protein = 4.7G
Protein selectivity - Non selective
Creatinine = 8,640 millimoles/1
Volume 500ml

BLOOD BIOCHEMISTRY
Na = 145 mmol/I
K = 4.0 mmol/I
Cl = 110 mmol/I
Creat = 100micromoles/1 (50-75 micromoles/
HCO3 = 23 mmol/I
Albumin = 20 G/I
Urea - 15 mmol/I
Glucose = 6 mmol/I
Spot urine - ++ blood on stix testi

a. What is the explanation for the haematological findings ?

b. What is your interpretation of the 24 hour urine results ?

c. What is his creatinine clearance (corrected for surface area) ?

d. What would be your management ?

e. What vascular complication is he at risk from ?

f. What precautionary investigations would be needed before undertaking a renal biopsy?

g. What is the likeliest renal histology ?

PART B

3. A baby was born to a 34yr. old mother as a result of her second pregnancy, the first pregnancy resulting in an abortion. Parents are first cousins. The baby weighed 2.lkgs and was full term. Apgar score was 6 at Imt and 10 at 5 mts. The pregnancy was uneventful except for a febrile illness at three months of gestation for which she has sought treatment at the local Dispensary.

Since the baby was sucking well mother went home on the second day with the baby before the baby could be checked by a doctor. BCG vaccination was given.

The baby was readmitted on the third day because the baby was not feeding well and was vomiting all the feeds, which was mainly breast feeds. On examination baby was not jaundiced, afebrile, had a sunken fontenelle, pulse was rapid and thready. BP was very low. Liver and spleen were not enlarged. Lungs were clear. The baby had not passed urine for more than 12 hrs. Serum electrolytes showed a hypona - traemia and WBC/DC was normal.

3.1 What is your differential diagnosis ?
3.2 What further examination of the baby and investigations would help you to arrive at a diagnosis ?
3.3 Outline your management.

4. An eight year old boy was admitted to your ward in a Base Hospital with a history of high fever, vomiting and progressive drowsiness of one days duration. He had a cough and nasal discharge for about 5 days prior to admission and three large watery stools on the day of admission.

He had been apparently well prior to this illnecs. On examination he is febrile (Temp. 40'C) has no rash, pallor or lymphadenopathy. His eyes are sunken, tongue dry, breathing is rapid and deep, and there are bilateral crepitations in the lungs. There are no focal neurological signs. (as far as can be tested) or meningism. He was drowsy but responded to pain. optic fundi are normal. Abdomen is soft with no tenderness or guarding, liver is palpable forl.5cms below the costal margin and non tender. Spleen is not palpable. After initial improvement in his neurological state there was a sudden deterioration of his condition and went into coma.

4.1 List 3 likely diagnosis.
4.2 List the immediate investigation that you would request (Hospital does basic, haematological and biochemical tests but no microbiology)
4.3 Out line your general management and specific management of the most likely diagnosis.
4.4 What is the reason for his sudden deterioration ?

PART C

A 3 year old girl a product of a first cousin marriage was referred by a GP in Samanthurai for poor height and weight.

Antenatal and perinatal history was normal. Birth weight 3.0kg. The mother remembers the child to be small from her early months of infancy. Her vaccinations have been up to date. Neutritional history appears satisfactory. Developemental milestones were normal. The father is an income tax paying businessman.

The weight records show a poor growth performance from birth onwards.

Examination

Height and weight about one standard deviation below the 5th centile.
Head circumference 5 - 50th centile.
She acted and behaved like a normal 3 year old.
No jaundice or evidence of hepatic failure.
She had no clinical evidence of mineral or vitamin deficiencies.
Her liver was enlarged 6 cms below the costal margin at the mid axillary line. Upper border was percussed at the 4th intercostal space. It was not tender, had a smooth surface and a sharp border.
Spleen not palpable.

Labortary Tests

SGPT 95 IU/L (Normal 4-27)
Serum bilirubin 6.8mmol /I(normal 3.4 - 17.1)
Prothrombin time - Test 12 secs.,control 12 secs.
Fasting blood glucose - 1.Ommol/L
Post prandial blood glucose 4.7 mmol/I
Total c holesterol 280.3mg/dl (Normal 150 - 250)
HDL 19.4 mg/ dl(Normal 25-75)
LDL 19 mg/I (Normal 90 - 170)
Total cholesterol : HDL cholesterol ratio 14.5 (Normal 3-5.5)
Triglycerides 309.3 mg/l (Normal 55-185)

5.1 What is the diagnosis / differential diagnosis ?

5.2 What test / tests would you do if available to verify the diagnosis ?

5.3 What is the treatment for the most likely diagnosis ?

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD(PAEDIATRICCS) PART 11 EXAMINATION
JANUARY.1991

Date :- 7th January 1991 Time :- 2.00 p.m.- 5.00 p.m.

PAPER II

STRUCTURED ESSAY

Answer all Five questions.
Answer each question in a separate answer book.

PART A

1. In a 12 year old child presenting with fever, lymphadenopathy and presence of atypical mononuclear cells in the blood film, the haemoglobin and platelets are normal.

   1.1 What infective illnesses would you consider. (25 marks)

   1.2 How would you investigate such a patient. (25 marks)

   1.3 Discuss the clinical features of one of the illnesses you have mentioned (25 marks)

   1.4 What is its prognosis including complications. (25 marks)

2. A mother brings a 2 year old child having taken an overdose of Aspirin.

   2.1 What clinical features may be found ? (25 marks)

   2.2 How will you confirm a diagnosis of salicylate poisoning ? (20 marks)

   2.3 How will you treat this child ? (25 marks)

   2.4 What adverse effects may be ascribed to Aspirin ? (15 marks)

   2.5 How will you present salicylate poisoning in children ? (15 marks)

3.

3.1 Describe the physiology of Asphyxia Neonatorum (25 marks)

3.2 What antepartum / intrapartum factors will make you anticipate delivery of an asphyxiated baby ? (25 marks)

3.3 How will you evaluate an asphyxiated newborn, regarding the course of resuscitation ? (20 marks)

3.4 What are the "ABC's" (Steps) of resuscitation ? (15 marks)

3.5 State the consequences of delayed or Ineffective resuscitative efforts. (15 marks)

PART B

4.

4.1 Describe an infantile spasm (20 marks)

4.2 What are the relationships of infantile spasms to immunisations ? (20 marks)

4.3 What investigations should be done in a case of infantile spasms ? (20 marks)

4.4 What is the management of infantile spasms ? (20 marks)

4.5 What is the prognosis ? (20 marks)

5.1 What symptoms occur in juvenile myxoedema ? (25 marks)

5.2 What investigations would you perform to establish a diagnosis. (25 marks)

5.3 Describe the treatment and its complications. (25 marks)

5.4 How is treatment monitored. ? (25 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART 11 EXAMINATION
JANUARY , 1991

Date :- 8th January 1991 Time :- 9.00 a.m. -10-00 a.m.

PAPER III

ESSAY

Write an essay on any one of the following

1. Describe the various ways in which children may be abused. What is the role of the paediatrician in its detection and management ? How might Sri Lankan society deal with the problem ?

2. Acute respiratory disorders are a major cause of bed-occupancy in Childrens' Wards in hospitals in Sri Lanka. What measures could be adopted to reverse this trend.

3. Describe the changing pattern of Infections in Sri Lankan Children towards the end of the Twentieth Century as a result of advances in diagnosis and chemotherapy.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 1992

Date :- 6th January, 1992 Time :- 2.00 P-m- - 5-00 P-m

PAPER 1

CASE HISTORIES

Answer all questions.
Answer each part in a separate book.

PART A

1. A ten year old boy is involved in a minor fight with his friends in the back of a stationary motor car. When he gets out he falls to the ground: on trying to get up his parents notice he cannot elevate his foot. He is taken to casualty where is found to have foot drop and anaesthesia of the anterior and lateral aspects of the leg and foot.

   1. What nerve has been injured ? (20 marks)
   2. Where is the injury likely to have occurred ? (15 marks)
   3. Of which major nerve is the injured nerve a branch ? (15 marks)
   4. Which nerve roots are involved ? (15 marks)
   5. Why is there preservation of sensation over the medial leg and foot ? (20 marks)
   6. What is the prognosis ? (15marks)

2. An 11 year old boy was admitted collapsed after an athletic meet following persistent vomiting. During the last year he had become difficult to manage and a consultation with a child psychiatrist had been arranged. He had lost 'a lot' of weight. His mother has insulin dependent diabetes. On examination he was deeply tanned, blood pressure 70/40, semi-conscious, blue perpheries, sweating.

Investigations :

Na = 124 mmol/l (134-144mwol/l) Albumin = 50g/I (35-45g/1)
K = 6.1 mmol/l (3.0 - 4.5mmol/) Ca = 2.60 mmol/I (2.2 - 2.65mmol/1)
Cl = 90 mmol/I (100-108.mmol/l)
HCO3 = 18 mmol/1(20 - 27 mmol/1)
Urea = 7.1 mmol/1 (2 - 6 mmol/1)
Creatinine = 90 umol/l (50 - 80 umol/1)
Glucose = 1.6 mmol/l (3 - 6 mmol/1)

a. What is the differential, diagnosis ? (20 marks)

b. What investigations will confirm the likeliest diagnosis ? (20 marks)

c. What is the immediate management ? (20 marks)

d. What is the long term management ? (20 marks)

e. What is the likeliest underlying cause ? (20 marks)

PART B

3. A 26 year old priini-gravida is transferred from an estate hospital to a provincial hospital with a delayed second stage of labour. Her membranes had ruptured 24 hours before admission to the estate hospital.
An emergency lower section Caesarian section was done and on asphyxiated baby with an Apgar Score of 4 at 1 minute and 8 at 5 minutes was delivered.

The baby was resuscitated by bag and mask and was sent to the neonatal intensive care unit for observation,

He weighed 2 kg
His estimated maturity was 34 weeks
His rectal temperature was 35.5"C
His colour was pink and there was mild tachypnoea with grunting

At. 2 hours of age the baby's condition deteriorated. His respiratory rate increased to 100/ml per mt.
There was marked central cyanosis, with intercostal and subcostal recessions,
On auscultation air entry was equal on both sides of the chest

You are called into see the baby at this stage.

a. State giving reasons the differential diagnosis you will consider in this baby (20 marks)

b. Mention the investigations you would carry out in this baby. Explain how the results of each of the investigations would assist you in arriving at a diagnosis.

c. Describe how you would manage this baby at this point of time.
What specific instructions would you give to the nursing staff regarding the care of this patient ? (30 marks)

Whilst being treated appropriately there is a sudden deterioration of the condition in the baby at 48 hours of age. In spite of increased concentrations of oxygen. the baby's arterial oxygen saturation could not be maintained satisfactory.

d. State the likely complications that would account for the sudden deterioration in this condition (15 marks)

e. How would you manage this patient at this stage ? (15 marks)

4. A 10 year old farmer's son who was apparently healthy slept on the floor of his wattle and daub house after his usual dinner of rice and currey.

He woke up early morning complaining of severe abdominal pain. None of the other members of his family had signs and symptoms of any illness. His mother offered him some lime juice with coffee which he drank with great difficulty as he had some difficulty in swallowing. A few hours later he complained of chest pain and he had difficulty in breathing as well. The patients took him to the local hospital, but as his condition was deteriorating he was referred to the Provincial Hospital for assisted ventilation.

On admission to hospital he was conscious, but drowsy and had central cyanosis with a respiratory rate of 14/mt.

a. Give the differential diagnosis compatible with the above clinical picture. (25 marks)

b. What additional information would you elicit from his parent's to help you to establish the correct diagnosis ? (25 marks)

c. State the additional abnormal physical signs that would be consistent with the conditions you have mentioned in this differential diagnosis. (50 marks)

PART C

A four year old boy, a child of a clerk and school teacher is admitted with a history of passing large volumes of urine and excessive thirst for as long as the mother could remember. His weight was 2.5 SD below the 50th centile of the NCHS standard.

a. What are the possible causes for his urinary problem ? (10 marks)

The second sample of a fasting urinary specimen showed an osmolality of 80 mOsm/kg. H20. The serum osmolality of a sample taken at the same time was 296 mOsm/kg. H20 (normal = 275 - 295)

b. What tests would you now perform to arrive at a diagnosis indicating against each, its purpose ? (20 marks)

The child was given Hvdrochlorothiazide which improved the urinary symptoms considerably. The addition of Indomethacin to his treatment led to a still further improvement.

c. What is the diagnosis ? (30 marks)

d. What is the mechanisms of action of Hydrochlorothiazide and Indomethacin in the improvement of symptoms ? (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUA.RY, 1992

Date :- 7th January, 1992 Time : 9.00 a.m.-12-00 noon

PAPER II

STRUCTURED ESSAY

Answer all Five questions.
Answer each question in a separate answer book.

PART A

1. Describe the signs and symptoms of a child with a primary intracranial tumour. (25marks)

   1.1 List the common primary intrinsic brain tumours with reference to their sites. (25 marks)

   1.2 How would you set about investigating a child with clinical evidence of S.O.L. in the brain (25 marks)

   1.3 Describe briefly the management. (25 marks)

2. Discuss briefly the aetiology of hepatic cirrhosis in children (25 marks)

   2.1 How would you investigate such a child ? (25 marks)

   2.2 What is the management of acute liver failure ? (25 marks)

   2.3 Discuss the management of variceal bleeding ? (25 marks).

PART B

3. What intra-abdominal conditions may be detected using fetal ultrasonography ? (50 marks)

3.1 Describe the investigation and management of one of these conditions (50 marks)

A 3 day or fullterm baby developes petechiae bruising and excessive bleeding from venipuncture sites.

4.1 Llist the likely causes (25 marks)

4.2 Describe the investigation of this case (25 marks)

4.3 Outline the treatment of the common causes (25 marks)
During investigation the baby has a significant haematemesis

4.4 Describe the management of this complication (25 marks)

PART C

5.1 List the different types of diarrhoeogenic Escherichia Coli (20 marks)

5.2 Outline the Pathogenic mechanisms of each type (30 marks)

5.3 Outline the pathogenic mechanisms in rotavirus diarrhoea (30 marks)

5.4 What laboratory methods are a variable for the diagnosis of rotavirus infection ? (20 marks)

POSTGRADIATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART I1 EXMINATION
JAITUARY, 1992

Date :- 7th January, 1992 Time :- 2.00 p.m. - 3.00 p.m.

PAPER III

TRADITIONAL ESSAY

Write on essay on any one of the following

1. The assessment and management of protracted diarrhea in infancy.

2. Prevention and control of sexually transmitted diseases and AIDS in children in Sri Lanka.

3. Seizures in children under 5 years of age (excluding neonates) in Sri Lanka.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 1993

Date :- 5th January, 1993 Time : 2.00 p.m. - 5.00 p.m.

PAPER I

CASE HISTORIES

Answer all questions.
Answer each part in a separate book.

PART A

1. A ten year old child of average height parents, presents acutely with a left facial weakness. Her height is below the third centile and she is pale with proximal muscle weakness. She empties her bladder hourly and goes to the lavatory twice during the night. She has had unexplained episodes of fever in infancy and in the past year her parents had observed that she had been unusually tired.

   (a) What are the likely explanations for the physical findings ? (25 marks)

   (b) What is the likely diagnosis ? (25 marks)

   (c) Outline her Acute management. (25 marks)

   (d) Outline her long term management. (25 marks)

2. A three year old child was admitted acutely because of limb pains. She had been well until ten days before admission when she had fever, generalised aches, diarrhoea and malaise for two days. She recovered for one week then gradually developed diffuse limb pains particularly in the legs, with reluctance to weight bear and reduced spontaneous movement. She had been fully immunised and had not previously required specialist medical care.

   On examination she was afebrile, lying prone, with arms flexed under her and the legs flexed in a frog position. Power and tone were reduced in both legs to an equal degree and her deep tendon reflexes were absent.

   Examination of the arms and CNS was normal.

(a) Which two investigations would help to confirm the diagnosis ?
(20 marks)

(b) List the differential diagnosis. Which do you think is the most likely diagnosis ?
Give reasons for your answer (20 marks)

(c) Outline the immediate management. (15 marks)

Over the next week her weakness ascends and she develops urinary retention.

(d) How is this complication managed ? (15 marks)

(e) What other complications may occur ? (15 marks)

(f) What is the prognosis ? (15 marks)

PART B

3. A ten year old girl was admitted to the Lady Ridgeway Hospital with acute retention of urine 3 weeks after she developed mumps. Two weeks prior to admission, she vomited several times and subsequently had diarrhoea which lasted for 5 days. Since then she had only one small loose motion. During the last 10 days she had recurrent colicky lower abdominal pain which became increasingly severe. For a few days prior to admission she was febrile.

Her birth and early development had been normal. Her only sibling, a 5 year old brother had just developed mumps but was otherwise well. Both parents were in good health. The father was a businessman with an average monthly income of 5000 rupees and the family's housing was adequate.

Examination on admission showed a flushed, distressed girl whose height and weight were on the 50th centile. The temperature was 39 degrees centigrade and, the blood pressure was 110/70 mm Hg. The pulse rate was 100/minute and the respiratory rate was 20/minute. There were no parotid swellings. Palpation of the abdomen was painless. The bladder could be felt at the level of the umbilicus and percussion confirmed dullness extending from here to the pubis. A firm mass, about 7 cm in diameter, was palpable more deeply, rising out of the pelvis, and lying just to the right of the midline. Bowel sounds were normal. Rectal examination revealed hard faeces, and rectal palpation was painful. No abnormalities were found in other systems.

(a) What initial clinical procedure do you regard as essential to the further examination of the patient (20 marks)

(b) Give 4 investigations which are indicated. (20 marks)

(c) What is the differential diagnosis ? (30 marks)

(d) Discuss the management of one of the conditions. (30 marks)

4. A 26 year old woman is admitted to the Castle Street Maternity Hospital for the birth of her third baby. Her first baby was a full term normal vaginal delivery with no neonatal problems. Her second baby, also a full term normal vaginal delivery, weighed 3 kgs at birth. The birth occurred at the Dankotuwa hospital. At 24 hours of age the baby was noted to be mildly icteric. At 48 hours of age the doctor noticed that the baby was deeply icteric and decided to transfer the mother and baby to the Base Hospital, Negombo as there were no facilities for bilirubin estimation at the Dankotuwa hospital. Unfortunately, the baby died before investigations could be instituted.

The third pregnancy ended in a vaginal delivery. The baby weighed 3.5 kgs and no abnormality was detected at birth. However, at 20 hours of age the baby was noted to be icteric. Immediately, investigations were instituted.

Total serum bilirubin 170 micromoles/1 (10 mg/100 ml)
Direct SB 17 micromoles/1 (I mg/100 ml)
Haemoglobin 16g%
Direct Coomb's test was strongly positive
Baby's blood group B Rh positive
Mother's blood group 0 Rh positive

(a) Give 2 possible diagnoses. (20 marks)

(b) What is the most probable diagnosis ? Give reasons for your answer. (30 marks)

(c) What investigations would you do to confirm your diagnosis ? (30 marks)

(d) How would you manage this baby ? (20 marks)

PART C

A 4 year old boy presented with fever of 10 days duration. He had been treated by the local G.P. with oral penicilin for 4 days, and then with cephalexin for 5 days. On examination he was pale, and had mild frontal bossing. The liver was palpable 2cm and the spleen 3 cm (firm).

Investigations.

Hb - 6 G%
Retic count 5%
Blood picture - some polychromatic cells and spherocytes. Negative for Malarial-parasite. Few atypical mononuclear cells.
ESR - 38 mm
WBC/DC - 13,100; Polym 64%, Lymph 20%, Eos 9%, Mono 7%
Blood group AB positive
Hb electrophoresis - No abnormal heaemoglobins.
Osmotic fragility test - Negative.
Bone Marrow biopsy - Erythroid hyperplasia.

He was given AB positive blood, to which he developed a reaction, and thetransfusion was stopped. The fever subsided. after a course of antimalarials, and he was discharged after 10 days with advice for follow up in the clinic.

6 weeks later he was readmitted with pallor and fever. The liver and spleen were enlarged 3 cm and 5 cm respectively. A lump was palpated in the right iliac fossa.

Investigations.

Hb - 6 G%
ESR 43 mm
Retic count 6%
Direct. Coombs test positive
WBC/DC 12,300; Polym 59%, Lymp 20%, Eos 18%,
Mono 3%

(a) Mention. the likely diagnoses. (30 marks)
Give reasons (20 marks)

(b) What other investigations would be useful ? (30 marks)

(c) Outline the principles of management. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY , 1993

Date: 4th January 1993 Time : 2.00 p.m.- 5.00 p.m.

PAPER II

STRUCTURED QUESTIONS

Answer all Five questions.
Answer each part in a separate book.

PART A

1.

1.1 What would make you think a three week old baby had conjugated Hyperbilirubinaemia ? (25 marks)
1.2 Describe critically the investigation of such a case. (25 marks)
1.3 What are the likely diagnoses ? (25 marks)
1.4 How are they managed ? (25 marks)

2

2.1 What would make you suspect a two year old child had

(a) cystinosis ?
(b) cystinuria ? (20 marks)

2.2 Outline the investigation of suspected cases. (20 marks)
2.3 Describe the differential diagnoses (20 marks)
2.4 What are the biochemical differences between cystinosis and cystinuria (20 marks)
2.5 How are cystinosis and cystinuria managed ? (20 marks)

PART B

3. Using simple examples explain the following terms used in Medical Statistics (10 marks for each part)

3.1 Qualitative vs. Quantitative data
3.2 Incidence and prevalence
3.3 Case control study and cohort study
3.4 Confounding variable
3.5 Independant and dependent variable
3.6 Standard error of the mean and the confidence interval
3.7 The t-test and the analysis of variance
3.8 Chi squared test
3.9 Linear regression and correlation
3.10 Probability is less than 0.01

4

4.1 Write short notes on the following in Diabetes Mellitus
(a) Classification (10 marks)
(b) Glycosylated haemoglobin (10 marks)
(c) Honeymoon period (10 marks)
(d) Somogyi phenomenon (10 marks)

4.2 Mention possible causes for loss of weight in a 6 yr old girl with Diabetes Mellitus treated with 24 units of insulin per day. Urine tests done 3 times a day at home with Benedicts reagent shows that more than 95% of the samples are free of sugar while tests done for ketones showed a mild ketonurea. (60 marks)

PART C

5.

5.1 What are the pathophysiological changes in severe asphyxia in a new born baby ? (40 marks)

5.2 Describe the management of a new born baby with an Apgar score of 'O' at birth (apparent fresh still birth) whose foetal heart sounds were present just prior to delivery (30 marks)

5.3 Outline briefly the management of this baby in the next 48 hours of life (30 marks)

POSTGRAGUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 1993

Date 5th January, 1993 Time : 9.00 a.m. 10.00 a.m.

PAPER III

TRADITIONAL ESSAY

Write an essay on any one of the following

1. A child has reached the terminal phase of a malignant disease; describe The management of the child and its family.

2. What should be the national policies for the prevention and management of Respiratory infections in Sri Lankan children ?

3. Critically evaluate the present medical education system of the Health care personnel in Sri Lanka. What modifications would you suggest in Paediatric education to improve the standard of care of children ?

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COL0MBO

MD (PABDIATRICS) PART 11 EXAMINATION
JANUARY, 1994

Date 4th January, 1994 Time : 2.00 p.m.-5.00 p.m

PAPER I

CASE HISTORIES

Answer all questions.
Answer each question in a separate book.

1. A 21 year old primipara went into spontaneous labour at 30 weeks of gestation.
A 1.5 kg boy was delivered by the vertex. The liquor was not meconium stained. The Apgar score at 1 minute was 4 and at 5 minutes was 9. At 4 hours of age the baby was tachypnoeic and needed ventilation with an oxygen concentration of 50%, a Positive End Expiratory Pressure (PEEP) of 4 cms waters, a Peak inflation Pressure (PIP) of 20 cms water, Respiratory rate of 40 per minute and an Inspiration/Expiration ratio (I:E ratio) of 2 :1 to achieve a po2 of 60 mmHg and pCO2 of 40 mmHg. The baby deteriorated gradually and at 24 hours of age the po2 was 35 mmHg and the pCO2 rose to 60 mmHg. The ventilator settings were adjusted accordingly and the blood gases improved to pO2 60 mmHg and the pCO 40 mmHg.

At 36 hours of age the baby deteriorated suddenly and the pH was 7 .0, pCO2 70 mmHg and the pO2 , 30 mmHg. After adequate management the baby improved in about 3 hours. The baby was weaned off the ventilator on day 12. however he was tachypnoeic even at one month and needed an ambient oxygen concentration of 35% for adequate oxygenation.

(a) What is the most likely initial diagnosis ? (10 marks)

(b) What changes in the ventilator settings, in order of preference, would you suggest at 24 hours of age ? (20 marks)

(c) Mention 5 investigations you would request to determine the cause of his deterioration at 24 hours of age (30 marks)

(d) Mention 5 probable causes for his deterioration at 36 hours of age (30 marks)

(e) What is the most likely diagnosis at age 1, month ? (10 marks)

A one year old boy was admitted to the Matara hospital with a comlaint of Reluctance to move the right lower limb and painful swelling above the right knee of two weeks duration. Ten days prior to this he had been off food, apathetic and irritable, This was followed by a history suggestive of a lower Respiratory tract infection.

The father of this child is a 35 year old Rice-mill manager married to his 32 year old cousin. This child is the product of their second pregnancy which was complicated by hypertension. The pregnancy and partus was looked after by D.M.O./Tissa and the drugs used were Beta-Blockers and Thiazide diuretics. The child was born seven days postmature at G.H. Tissa with a birth weight of 2 kg. On the second day the baby developed a petecheal rash; otherwise the baby was quite well. The babv was sent home, well, on the fourth day without any drugs or BCG been administered.

The baby's health, development feeding and immunization was supervised by the local family health worker.

His past history had been uneventful except for two episodes of diarrhoea

1. At the age of six weeks following the introduction of fruit juices.

2. At the age of 3 months following the introduction of Kola-Kenda.

Due to these the weaning foods given up to now consist of Rice, Yams, Lentils, Biscuits, Egg Yolk and Dried fish apart from Breast milk.

Development - Age appropriate
Drugs/Allergens - Nil

On examination, he was pale, apprehensive and irritable.

Few petechae were found on the gums.
No lymphadenopathy.
No icterus.

Examination of the Cardiovascular, Respiratory, Central Nervous Systems and the Abdomen did not reveal any significant abnormality. He was reluctant. to move the Right Lower limb.
There was tenderness and fulness above the right knee joint.

(a) What is the most likely diagnosis ? (25 marks)
(b) Give two other probable di'agnoses (15 marks)
(c) Mention the relevant investigations you would request at Matara hospital to arrive at a diagnosis (15 marks)

(d) What is the likely cause for her rash at hours ? (10 marks)
(e) Mention the failures in the Health Care System identified in this case history. (20 marks)
(f) Give two reasons for this baby to be light for dates (15 marks)

3. A 18 month old girl was admitted to hospital with a history of cough, mild fever off and on and difficulty in breathing, all of nine days duration.

The cough had started suddenly on the evening of the onset of the illness.

Past Medical History - nothing of note

Immunization - age appropriate

Family History - She was the sixth child in the family.
The parents and siblings are alive and well.

At the time of admission she was afebrile - but listless and looked ill.

Weight - 10 kg
Height - 80 cms
Occipito Frontal Circumference - 48 cms (all on the 50^{th} centile)

On Examination of the Respiratory System, she had No cyanosis, No clubbing, No chest deformity.

Respiratory Rate - 44/mm
Trachea - Shifted to the right
Percussion Note - impaired over right lung
Breath Sounds - diminished over right lung

Crepitations ++ over Right chest
Left Chest - No abnormality detected

Rest of the clinical examination - showed no abnormality.
Investigations on admission

Chest Xray - Right Middle Lobe collapse consolidation
Blood Culture - Negative
WBC - 17,800/cm
DC - p 60%
L 40%
ESR - 44 mm first hour.

3.

(a) Mention two possible diagnoses on admission (20 marks)

She. was treated with Penicillin and Cloxacillin I.V. With this treatment she improved and the cough became productive Chest Physiotherapy was started on the third day after admission, and she continued to improve. On the fourth day after admission the WBC was 9,600 ESR 27 mrn/1st hour.

On the fifth post admission day, 1/2 hour after chest physiotherapy, during a feed she developed sudden respiratory difficulty. She was sucked out Oxygen and chest physiotherapy given again on a presumptive diagnosis of aspiration of milk, but though she had temporary relief she continued to have respiratory difficulty.

On Examination -
She had central cyanosis and the air entry to the right chest was grossly diminished.

After appropriate treatment she made a complete recovery.

(b) Give 2 possible reasons for the acute crisis on the fifth post admission day (40 marks)

(c) Indicate steps in her management after the respiratory problems on the fifth day after admission (40 marks)

4. This 10 year old child presented because of very short stature. She was first noted to be short on school entry at the age of five years. She had a long standing history of recurrent upper respiratory tract infections, swollen glands and intermittent deafness. She had been thin with poor appetite prior to removal of tonsils and adenoids at the age of 5 years but had subsequently gained weight and become slightly obese.

On examination her height was 112cm (13 cm below the third centile) and weight 23kg, - on the third centile) Apart from a high arched palate there were no other features of note. She was prepubertal.

Fathe'rs height 166.6 cm
Mother's height 147.0 cm

Investigations –

Haemoglobin - 15.1 g/dl
Basic biochemistry – normal
Total T4 - 134 nmol/l (N 55 - 150)
TSH - 4mU/I (N<5)
Growth Hormone peaked to 39.4 mU/I following insulin hypoglycaemia

Basal LH 15.3 IU/L (normal prepubertal <2)
Basal FSH - > 20 IU/L (normal prepubertal <3)

Xrays - Chest and Skull - normal
Bone age - 9.2 years at a chronological age of 10.0 years

(a) What is the likely diagnosis ? (20 marks)

(b) What further investigation(s) are indicated ? (20 marks)

(c) What are the long term consequences of this condition in this child (20 marks)

(d) What should the child be told about the condition and when ? (20 marks)

(e) Is there any indication for treatment ? If so what and when ? (20 marks)

5

SB, male was born by spontaneous vaginal delivery at 33 weeks gestation, birth weight 1650g. The pregnancy had been complicated by premature rupture of the membranes which required admission for the 5 weeks prior to the birth, and treatment with antibiotics. The baby was noted to have a small penis with the testes not palpable in the scrotum. Routine biochemical studies on day 2 revealed asymptomatic hypoglyeaemia (0.8mmol/L).
Neonatal hypothyroid screening (day 8) using TSH was normal. There was prolonged jaundice and on day 16 serum bilirubin was 224 umol/L, nearly all being unconjugated.

<u>On examination</u>

On examination at four weeks of age the baby was still jaundiced with a serum bilirubin level of 170 umol/L. There was mid-face hypoplasia with a small nose and hypoteliorism and in addition, short arms with small hands.

Investigations at 4 weeks

Thyroid function tests

Thyroid hormones	- lower level of normal for age
TSH - normal,	
Testosterone	- low basal level for this age Normal response to stimulation with gonadotrophin
Cortisol	- Low basal level Normal response to ACTH stimulation
Growth Hormone	- Very low levels to stimulation
Chromosomes	- Normal 46XY Karyotype
Brain CT Scan	- Normal

At 10 weeks-measurements (corrected for gestational age) were weight 2.95 kg (3rd centile), length-48.3cm (<3 centile) occipito-frontal head circumference 34.2 cm(> 3 centile)

Family History

There was a family history of short stature, maternal height being 1.44 m (4ft 8.5in), (but the mother had normal growth hormone response to L-dopa with a peak of 32mU/L).

(a) What is the likely diagnosis ? (20 marks)

(b) What is the likely explanation for the prolonged jaundice (20 marks)

(c) What are the possible aetiologies ? (20 marks)

(d) What treatment is indicated ? (20 marks)

(e) How should the treatment be assessed? (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY , 1.994

Date 4th January, 1994 Time 9.00 a.m. -12.00noon

PAPER II

STRUCTURED QUESTIONS

Answer all Five questions.
Answer each question in a separate book.

1. Obesity is not synonymous with "above average weight"

(a)

(1) Attempt a definition of obesity in a growing child (10 marks)

(2) Outline the most relevant CLINICAL (history and examination) Observations in the evaluation of an obese child. (20 marks)

(3) How can weight changes and degrees of fatness be interpreted during the years of_puberty ? (20 marks)

(4) When would investigation of obesity in childhood be indicated and what form would this take ? (20 marks)

(b) Outline the principles in the management of obesity in a 7 year old child. (30 marks)

2.

(a)

(1) Debcribe the clinical.features of puberty in boys, the sequence and "normal variability of this. (15 marks)

(2) What. f,actors influence the timing of puberty in the non-pathological situation ? (15 marks)

(b) A 5 year old boy shows features of sexual precocity

(1) List 5 causes (20 marks)

(2) Describe the evaluation (clinical and investigative procedures) (30 marks)

(3) Discuss the short term and longer term implications in ONE of these conditions. (20 marks)

3. Give four conditions following which Diabetes Insipidus has been reported in the newborn infant ? (20 marks)

(a) Enumerate 5 common causes of Cranial Diabetes Insipidus in childhood. (20 marks)

(b) Give an account of the investigations that would help in making a diagnosis of Cranial Diabetes Insipidus in a ten year old child. (25 marks)

(d) What is the management of a patient diagnosed as Cranial Diabetes Insipidus (management of the causative factor is not required) (20 marks)

(d) List five of the commoner causes of Nephrogenic Diabetic Insipidus. (15 marks)

4.

(a)

(1) Describe 5 seizure types which occur in the neonate. (10 marks)

(2) Why are these seizure types different from seizures in older children ? (10 marks)

(3) What prognostic value does the EEG have in neonatal seizures in a full term baby ? (10 marks)

(b)

(1) What is meant by the term 'hypoxic ischaemic encephalopathy' ? (10 marks)

(2) What levels of blood glucose indicate hypoglycaemia in the neonate ? (10 marks)

(3) Give 3 basic mechanisms which account for the majority of cases Of neonatal hypoglycaemia. (15 marks)

(c)

(1) List 5 causes of neonatal hypocalcaemia, classifying them into early and late onset types. (10 marks)

(2) Give 2 investigations which would help confirm a diagnosis of hypocalcaemia. (10 marks)

(3) When and how should hypocalcaemia be treated in the neonate ? (15 marks)

5.

(a)

(1) Give 2 surgical causes (other than biliary atresia) of neonatal conjugated hyperbilirubinaemia (10 marks)

(2) Name 5 inherited metabolic disorders which are associated with neonatal conjugated hyperbilirubinaemia. (20 marks)

(b)

(1) An infant whose birth weight was 3.0 kg presents at 5 weeks of age with conjugated hyperbilirubinaemia.
List 5 clinical features, which, if found, would render unlikely a diagnosis of biliary atresia. (15 marks)

(2) The exact aetiology of extrahepatic biliary atresia remains obscure. Recently, a virus has been implicated as the offending agent in some series. What is the virus ? (10 marks)

(c)

(1) Give 2 ways in which an abdominal ultrasound may help in the diagnosis of conjugated hyperbilirubinaemia. (10 marks)

(2) What advantages do radioisotopes have in the diagnosis of conjugated hyperbilirubinaemia ? (10 marks)

(3) List 3 surgical procedures which have been successfully used in the treatment of biliary atresia. (15 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART 11 EXAMINATION
JANUARY , 1995

Date :- 10th January, 1995 Time :- 2.00 p.m. 5.00 p.m.

PAPER 1

CASE HISTORIES

Answer all questions.
Answer each part in a separate book.

PART A
(Q, 1 2 & 3)

1. A 10 month old boy is admitted to hospital with a history of fever and cough of One weeks duration. He has a past history of recurrent. respiratory infections, one episode of ear discharge, skin rash from the age of 1 month, and 2 episodes of passing blood with the stool. His elder brother had died at the Cancer Hospital, Maharagama at the age of 3 years after suffering initially from a similar illness.

   On examination the patient is febrile, has eczema of the face, trunk and limbs, cervical lymphnode enlargement and crepitations over the lower part of the right chest posteriorly.

   Examination the blood showed the following:-

Hb	9.2 gms%
WBC	9200
DC	P 50
	L 30
	E 20

   Platelet count 50,000 per cmm.

   (a) What are the two most likely diagnoses ? Give reasons for your choice (30 marks)

   (b) What other historical details and physical signs would you look for ? (20 marks)

   (c) What further investigations would you request and how would they assist you to confirm the diagnosis ? (30 marks)

   (d) How would you manage this patient ? (20 marks)

2. A 24 year old woman in the 39th week of her first pregnancy is admitted to hospital with a history of dribbling for 26 hours. Soon after admission she has a spontaneous vaginal delivery. The baby is non asphyxiated at birth and weighs 1.6 kg.

On examination the maturity corresponds to a period of gestation of 39 weeks. There are no other abnormalities. On the third day of life the baby refuses feeds. Later, on the same day he vomits fresh blood. 24 hours later he passes fresh blood per rectum.

On examination at this stage, he is pale, mildly icteric and has abdominal distension. Bowel sounds are present.

Over the next 48 hours there is no further vomiting but there is melaena. The melaena and the abdominal destension then subside but the jaundice becomes more intense. There are no other abnormal features. The serum bilirubin is 19 mgms/dI, the unconjugated bilirubin being 17 mgms/dI. The blood group of both mother and baby is Group 0 Rh positive.

(a) What is the differential diagnosis ? Give reasons for your choice (20 marks)

(b) What investigations would you perform and what abnormalities would you expect in each of the conditions you mention. (40 marks)

(c) Describe the management of this baby (40 marks)

3 A girl whose birth weight was 4.06 kg was exclusively breast fed until 6 months. Her weight gain had been reasonable but from the time of weaning she had gained weight excessively despite apparently not overeating. When referred at the age 5.8 years she showed gross generalised obesity, was very tall and her bone age was advanced by 2 years.

(a) What is the most likely diagnosis ? (20 marks)

Attempts at dietary control were not very successful. She was referred back at the age of 8 years, even more overweight, but otherwise in good health. The height increase had fallen over the intervening period and her bone age had markedly slowed down, now being only 0.9 years advanced.

(b) What are the possible reasons for the changes in the pattern of growth and Which is the most likely diagnosis ? (30 marks)

Alternative treatment was instituted and was continued subsequently with initial dramatic thinning down but this was not maintained.

(c) Mention the investigations that are indicated at this stage. (20 marks)

(d) Describe in detail the treatment of the most likely diagnosis in (b) (15 marks)

(e) What is the likely explanation for the poor control of weight ? (15 marks)

PART B
(Q 4)

4. A 9 month old baby was admitted to hospital. The birth weight had been 3.5 kg. He had had no problems during the new born period and in early infancy. Child had been well until a month before admission, when he started to become lethargic and tired. He then developed vomiting and a midstream specimen of urine grew more than 10 5 E.coli per ml for which he was treated with co-trimaxozole. The vomiting became projectile in character three weeks before admission and a short period of feeding with clear fluids was advised. The instructions were misunderstood and the child was kept on clear fluid until admission. There was no history of diarrhoea. He had been exclusively breast fed upto 6 months and before this illness the child had been on Lactogen 2 32 ozs daily which the mother thought was adequate for a child of this age. No other weaning food had been given. He had lost 1.5 kg in weight over the 3 weeks before admission.

On examination the weight of the child was 7 kg. The Child was conscious apathetic and hypotonic. The child was pale with generalised depigmentation and pitting oedema of the sacrum and feet. 'His hair was light in colours and britle. Respiration was rapid and acidotic in character. The chest was clear and the CVS was normal. The abdomen was distended with firm hepatomegally 6 cms below the right postal margin.

(a) What is the most likely diagnosis ? (10 marks)

(b) What investigations would be relevant in the further management of this child ? (30 marks)

(c) Describe the management. (40 marks)

(d) What conditions are associated with a poor prognosis ? (20 marks)

PART C
(Q 5)

5. An 11 year old boy was admitted to hospital with a history sore throat for 7 days, abdominal pain and vomiting for 4 days, purpuric rash and swollen joints for3 days and bleeding per rectum for 2 days.

On initial examination an.. extensive petechial rash was present on the legs and both ankles were swollen. There was also a painful swelling of the right elbow and proximal. interphalangeal joints. There was tenderness in the abdomen and rectal examination shows the presence of bleeding. The remainder of the physical examination was unremarkable.

Laboratory investigations showed a clear urine with 50RBC/HPF, no white blood cells and no proteins. The haemoglobin was 16 gms/dl with a white blood count of 11,500/cmm, polymorphs 82% and platelets 319,000/cmm.

Serum sodium was 112 mEq/litre and potassium 4.7 mEq/Litre. Blood urea nitrogen was 22.5 mg/dl and ASOT 100 units/ml. Total serum proteins were 4.3 gm/dI. X-ray of the chest and abdomen were normal.

On the day following admission he became oliguric. He continued to pass blood daily with his stool. Abdominal pain and tendeness persisted. On the fifth day he had an episode of haemetemesis and frank bleeding per rectum and became very pale.

(a) What is the likely diagnosis ? (10 marks)

(b) What further investigations would you request ? Give reasons. (35 marks)

(c) How would you treat this patient (35 marks)

(d) An acute intervention took place in the management. What is the intervention and why was it done ? (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PABDIATRICS) PART II EXAMINATION
JANUARYL 1.995

Date :- 10th January, 1995 Time 9.00 a.m. 12.00 noon

PAPER 11

STRUCTURED QUESTIONS

Answer all 5 questions.
Answer each question in a separate book.

1. A 1 0 year old girl has a height on the 97th centile.
2.

(a) What are the 3 commonest explanations for such a stature ? (15 marks)

(b) What clinical features (history and examination) would be most helpful in the assessment, and why ? (25 marks)

(c) Suggest 2 ways in which a bone-age x-ray of the wrist and hand might be helpful. Is there any other way such an x-ray would be of diagnostic value ? (15 marks)

(d) Under what circumstances might treatment be considered in this girl ? (15 marks)

(e) What forms of treatment (other than for specific underlying pathologies) have been advocated ? (15 marks)

(f) What are the likely benefits and drawbacks of these various treatments and which if any would you recommend, if you considered treatment was justified ? (15 marks)

3. Sexual ambiguity and anomalous genitalia presents an urgent and difficult Diagnostic problem in the new-born.

(a) What is usually the most important criterion in determining the sex of upbringing ? (20 marks)

(b) Outline the basic approach to the diagnosis of the cause of sexual anomaly (40 marks)

(c) Which of these conditions have inheritance implications and what are the inheritance patterns ? (15 marks)

(d) Assuming satisfactory surgical correction is possible, which conditions have additional, longer term or later implications ? and what are these ? (25 marks)

4.

(a)

(1) List five (5) causes of congenital heart defects presenting with central cyanosis at birth or in the first few weeks of life. (10 marks)

(2) In the evaluation of a cyanotic neonate, what preliminary investigations are indicated. Also explain the findings that favour a cardiac cause. (25 marks)

(3) Give an account of how an infant with cyanosis due to a cardiac defect be managed medically if and when definitive surgical intervention takes place. (25 marks)

(b)

(1) What are the characteristic patho-physiological features of Persistent Pulmonary Hypertension of the Newborn (P.P.H.N.) (20 marks)

(2) Outline the management of Persistent Pulmonary Hypertension of the Newborn (20 marks)

4.

(a) Write a useful classification of Juvenile Chronic Arthritis (J.C.A.) (25 marks)

(b) Describe in detail the chemotherapy of Juvenile Chronic Arthritis (50 marks)

(c) List potentially serious complications of Tuvenile Chronic Arthritis (25 marks)

5.

(a)

(1) What factors predispose to the development of the Syndrome of Inappropriate ADH (SIADH) secretion in neonates and children (10 marks)

(2) What are the clinical manifestations of this Syndrome (10 marks)

(3)

3.1 List the characteristic changes seen in the blood and urine in the presence of this Syndrome (30 marks)

3.2 Explain the patho-physiological mechanisms for the changes in the blood and urine (30 marks)

(4) What are the principals of treatmet of this condition (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATTON
JANUARY, 1996

Date :- 3rd January, 1996 Time : 2.00 p.m. - 5.00 p.m.

PAPER I

CASE HISTORIES

Answer all questions.
Answer each part in a separate book.

PART A

1. A previously healthy 13 year old school girl was admitted to hospital with a five month history of recurrent pain and swelling of both knee and ankle joints. The joint pains were severe enough at times to prevent her from attending school. She seeked admission because of a worsening of her symptoms over the past week. She had also developed a painful reddish rash over both legs.

   She had no fever nor a sore throat. She felt nauseated with a reduced appetite and had lost 2.5 Kgs in weight during the last few months. She had no urinary symptoms. She was passing 4 - 5 semi formed stools a day for about 5 months mainly after meals and occasionally during the night. She also complained of a diffuse cramp-like pain in the lower half of the abdomen associated with borborygmi.

   She is the second child of healthy parents and her 15 year old sister is healthy. Her father is a businessman and mother is a housewife. Her grandparents lived with them in their 3 bed roomed house with adequate facilities. She was on no medication.

   On admission to hospital she was apyrexial, looked thin but alert. She was pre-pubertal. Her height was at the 25th centile and weight at the 3rd centile for girls. Her pulse was 80/minute and the blood presure 90/60 mmHg Grade 3/6 systolic murmur was heard at the mitral area. There were tender erythematous skin lesions on the legs.

   On abdominal examination there was mild tenderness in the right side. On rectal examination a thickened ridge of mucosa was felt at the anal canal. Her knee joints and the ankle joints were swollen with limitation of movements. The rest of the examination was normal.

Investigations :

Hb	9.5g/dl
MCV	74 fl
MCH	28 PG
WBC	7.8 x 10/1
Platelets	510 x 10/1
ESR	110 mm/1st hour
Urine	proteins negative sugar negative microscopy no cells culture sterile
Stools microscopy	no cells no ova or cysts seen culture sterile
ASO Titre	200 Todd units
Plasma proteins	50 g/l
Plasma Albumin	25 g/l
Chest X-ray	normal
Echocardiogram	mitral valve prolapse
Rheumatoid factor	negative
Anti nuclear antibodies	negative
C Reactive proteins	3000 ng/ml (normal range 67 -1000 ng/ml)

(a) What further investigations would help you at this stage to arrive at a diagnosis ? (40 marks)

(b) Give two likely diagnoses. (20 marks)

(c) Outline the principals of management of one of the diagnoses mentioned. (40 marks)

2. A nine year old school boy was admitted with a history of recurrent headache. His headache was present throughout the day and was not associated with visual symptoms nor with vomiting.

He was the second child of healthy parents and his four year old sister was healthy. His father is a bank officer and his mother is a housewife. His birth and early development had been normal. When he started schooling at the age of five years his parents noticed that he was much bigger than the other children in his class.

Examination on admission showed a child whose height and weight, were at the 95th centile for boys. He had few acneform lesions on the face. He was apyrexial.

The pulse rate was 80/min and his blood pressure was 200/120 mmHg. Femoral pulses were easily felt. His vision was normal and there was no tenderness over sinuses. Funduscopy was normal. Examination of cardiovascular, respiratory and central nervous system was unremarkable.

Investigations

Hb	12 gm/dl
Urine	proteins negative
	sugar negative
	culture sterile
Blood urea	3.8 mmol/I
Serum creatinine	2.5 mmol/I
Plasma renin activity	0.1 ng/ml/hr
	(normal range 0.2-2.5 ng/ml/hr:
Serum sodium	150 mmol/I
Serum potassium	2.5 mmol/l

(a) What additional clinical features would you look for in this child to establish a correct diagnosis ? (30 marks)

(b) What further investigations would you do ?
What abnormalities would you expect in each of the investigations ?
(30 marks)

(c) What is the likely diagnosis ? (10 marks)

(d) Outline the management of this child. (30 marks)

PART B

3. Baby R. S. was born at term after a prolonged labour with a birth weight of 2560g. He was asphyxiated at birth and needed resuscitation and was subsequently sent to the special care baby unit for observation.

Within two hours of birth the baby was found to be in respiratory distress with copious secretions in the throat. The baby improved with suctioning and it was found that baby needed tube feeding.

On examination of the baby there were no obvious dysmorphic features, but the face looked expresionless. There was marked generalised hypotonia with froglike posture of the lower limbs. Equino varus deformity of both feet were present.

The antenatal history of the mother was uneventful except for the presence of polyhydramnios.

Her previous baby was also similarly affected and had died at the age of four months.

The mother was noted to be mentally retarded.

(a) State four conditions that you would consider in the differential diagnosis of this baby (20 marks)

(b) What other features in the history and examination would be useful ? Indicate how they would help in the differential diagnosis. (40 marks)

(c) Enumerate the relevant investigations in this baby indicating how they would helps in the differential diagnosis. (25 marks)

(d) What is the most likely diagnosis in this baby and give reasons for your choice ? (15 marks)

4. A nine year old girl had been treated by her General Practitioner for a urinary tract infection as her urine analysis had shown proteinuria with

Pus cells 15 – 20)
Red cells 30 – 40) per high power field
Occasional granular casts)

A few weeks later she was noticed to be anaemic and the following investigations had been done

Hlb - 4g/DL
Reticulocyte count - 5%
Blood picture - Red cells normocytic, normochromic
Platelets plentiful - No abnormal cells seen
WBC DC 4.8 x 10 9/L
Neutrophils 80%
Lymphocytes 19%
Eosinophils 01%
Coomb's test - positive

She was then referred to a Haematologist who took over her management. She apparently responded to treatment and remained well for some time.

Six months later she complained of severe headache and was admitted in status epilepticus to hospital. She remained semi-conscious responding only to deep pain for 48 hours and gradually her neurological condition improved. She was discharged after a month's stay in hospital.

Six months later she was readmitted with seizures and was found to have a left hemipariesis, which gradually improved.

(a) State the most likely diagnosis in this patient, giving reasons for your choice. (20 marks)

(b) State three likely causes for the encephalopathic features this patient developed on her first hospital admission (20 marks)

(c) Enumerate critically the laboratory investigations that are helpful for the diagnosis and long term follow up of this patient. (40 marks)

(d) State the serious complications of therapy that this patient is at risk of developing. (20 marks)

5. A 13 year old girl became listless and had a low grade fever. After a few days she developed a severe sore throat and her cervical lymph nodes enlarged. She was treated with Ampicillin and shortly afterwards developed a striking generalized erythematous rash.

On examination she had a temperature of 38.2C'. She had a generalised erythematous rash involving face, trunk and limbs. Her throat was inflamed with a greyish exudate. Her cervical nodes were significantly enlarged and there were palpable nodes in her axillae and inguinal region. Her spleen was just palpable on deep inspiration.

(a) What is the most likely diagnosis ? (15 marks)

(b) Discuss the differential diagnosis. (35 marks)

(c) What investigations Would prove most helpful in confirming the diagnosis ? (40 marks)

(d) What is the cause of the rash ? (10 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATTON
JANUARY, 1996

Date :- 3rd January, 1996 Time : 9.00 a.m.-12.00 noon

PAPER II

STRIUCTURED QUESTIONS

Answer each part in a separate book.

PART A

1.

(a) The exact aetiology of neonatal necrotising enterocolitis (NEC) is Unknown. There are, however, several predisposing factors to NEC. Name 5 of them (10 marks)

(b) Describe briefly its clinical features (20 marks)

(c) What are the radiological findings ? (10 marks)

(d) Outline the medical management. (30-marks)

(e) Give 3 indications for surgery. (15 marks)

(f) Give 3 complications of surgery in NEC. (15 marks)

2.

(a)

(1) Name 3 infections which are noted with increased frequency in patients with sickle cell disease. (15 marks)

(2) What is the major clinical problem in sickle cell trait ? (10 marks)

(3) Why are neonates with sickle cell disease asymptomatic ? (10 marks)

(b)

(1) On routine examination, a 12 year old child with sickle cell disease has a palpable spleen.
What is the probable explanation ? (10 marks)

(2) Name 3 laboratory tests which can be used to evaluate children with suspected sickle cell disease. (15 marks)

(3) How is spienic function routinely evaluated in children with sickle cell disease ? (10 marks)

(c)

(1) What are the 2 mainstays of therapy in children with vaso-occlusive crises ? (10 marks)

(2) How should children with sequestration crises be managed ? (10 marks)

(3) What are the 2 leading causes of death in young children with sickle cell disease ? (10 marks)

3.

(a)

(1) What is the normal pressure in the portal venous system in a child ? (10 marks)

(2) Classify portal hypertension in children giving examples in each group. (10 marks)

(b)

(1) What is the commonest mode of presentation of portal hypertension ? (10 marks)

(2) What is the most constant sign of portal hypertension ? (10 marks)

(3) List 4 investigations used for diagnosis of portal hpertension. (20 marks)

(c)

(1) Outline the acute management of severe haematemesisin children with portal hypertension. (25 marks)

(2) List 3 therapeutic measures for the permanent prevention of gastrointestinal bleeding in children with portal hypertension. (15 marks)

PART B

4.

(a) Name 4 inherited conditions where there is an alteration in the plasma levels of metals. (20 marks)

(b) Describe the management of a condition in 4 (a) where there is reversible brain affection (30 marks)

(c) Describe the clinical features of a condition where the gastrointestinal tract is involved in,

i. an inherited condition where there is a decreased absorption of a metal. (25 marks)

ii. where there is a sudden increased blood level of a metal. (25 marks)

PART C

5. A 21 month old girl has Down's syndrome diagnosed soon after birth. A heart murmur has been noted at a routine follow-up examination, but no action taken. She now presents with new symptoms of pallor, bruising- and an infected mouth.

(a) What is the likely cause of her new symptoms ? (10 marks)

(b) Which investigations would be most helpful in confirming the diagnosis ? (25 marks)

(c) What are the possible causes of her heart murmur ? (25 marks)

(d) Discuss the genetics of Down's syndrome and the advice you would give to parents as to the risk of the syndrome recurring in any further children. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 1997

Date :- 7th January, 1997 Time : 2.00 p.m. - 5.00 p.m.

PAPER I

CASE HISTORIES

Answer all questions.
Answer each part in a separate book.

PART A

1. An eight month old male infant was admitted with a 12 hour history of high fever, refusal of feeds, followed by noisy breathing. The difficulty in breathing had progressed rapidly. He has had a mild cough and cold for one week prior to this problem.

   Examination at the time of admission revealsed an irritable child with tenderness and rigidity of the neck. He kept the neck extended and there was inspiratory stridor with drooling of saliva. There were enlarged tender cervical glands in the right anterior triangle of the neck. The ear drums were dull and erythematous bilaterally. The temperature was 38.8'C, there was no cyanosis, respiratory rate - 50/min, breath sounds were normal. C.V.S. – Pulse rate 130/min, regular, no murmurs.

   White cell count 20x 10 9/1 with a left shift

   (a) What are the two most likely diagnoses, and the probable causative agent/s (20 marks)

   (b) What additional features in the examination of this infant would be necessary to come to a definitive diagnosis (30 marks)

   (c) Describe how you would manage this child, giving the relevant investigations and indicating how they would help. (40 marks)

   (d) List the complications that could occur in both conditions (10 marks)

2. A 5 year old boy was admitted to hospital with a history of passing red urine for 12 hours previously. There has been no fever, dysuria or frequency. Two days prior to this the child had developed an upper respiratory tract infection. He has had 2 similar episodes over the past 6 months. These attacks had cleared up in a few days after some treatment from a General Practitioner. The child had been otherwise well before.

On examination the patient was afebrile, B.P. 90/60 and there were no abnormalities in the C.V.S./R.S. or abdomen.

Investigations

Hb 12.6g/dl, Platelet count 243 x 10 9/1
Urine - Red Blood Cells +++ /High power field.
Protein ++
Culture sterile
E.S.R. 13 mm in the lst hour.
Blood Urea)
) Normal
Serum Creatinine)

(a) State three conditions that you would consider in the differential diagnosis. (15 marks)

(b) What additional information in the history would be useful?(20 marks)

(c) What investigations would you perform giving reasons why ? (40 marks)

(d) What is the prognosis of the conditions you mentioned in (a) above ? (25 marks)

PART B

3. A 4 year old boy living in the Anuradhapura district is admitted to a Colombo hospital with a history of fever not exceeding 38'C of 3 days duration, vomiting of 2 days duration and drowsiness for 1 day. The child was said to have had loose stools for 1 day. 2 days prior to one onset of fever.

On examination, the child was febrile and was very drowsy. The liver was palpable 5 cms below the right costal margin and tender. The deep reflexes were exaggerated and the planter reflexes extensor. There were no other physical signs.

(a) What are the most likely diagnoses in the order of importance ?
(10 marks)

(b) What investigations would you do and what results would you expect in each of the conditions you mention ? (60 marks)

(c) Describe the management of the child according to what you consider is the most likely diagnosis (30 marks)

4. A 24 year old mother in her first pregnancy gives birth to a 2 kg baby by normal vaginal delivery at 38/52 of gestation. Her pergnancy had been uneventful except for fever of 2 days duration at the fourth month which had subsided without treatment.

48 hours after delivery baby was noticed to be icteric. The serum bilirubin was 10 mgms/dl and the direct bilirubin 2 mgms/dI. At 96 hours baby was deeply jaundiced and the serum bilirubin was 18 mgms/dl and the direct bilirubin 15 mgms/dl. Mother's blood group was 0 positive and the baby's A positive.

By the next day baby was still deeply icteric, the liver was noticed to be palpable 3.5 cms below the right costal margin and the spleen 3 cms below the left costal margin. The urine was dark and the stools were pale. There were no other physical signs.

(a) What is the most likely cause of this baby's illness (20 marks)

(b) Discuss how you would investigate this baby (40 marks)

(c) How would you treat him ? (40 marks)

PART C

5. A 22 month old boy had been well until three weeks ago. He then developed irritability and refused to stand or walk. Prior to this he had been an active boy who could walk, run and climb appropriately for his age. In the last two weeks he had lost his appetite, his irritability had become worse and his parents had noticed some pallor. He had no fever and was drinking satisfactorily.

He was a third child of healthy parents. He had two older sisters aged 7 and 5 years. He had been fully immunised.

On admission he was mildly pyrexial temperature 37.8'C. He looked pale and showed some signs of recent weight loss. His height was slightly above the 50th centile and his weight between the 10th and 25th centiles. His pulse rate was 96 per minute and his blood pressure 110/65. He had a grade 2/6 systolic murmur in the mitral area. His abdomen was full with a poorly defined mass in the right upper quadrant. He could not persuaded to put his weight on his legs. There were no other clinical findings.

Investigations

Haemoglobin	7.2g/dl
white cell count	11.2xl09/1
neutrophils	3.4xl0 9/1
lymphocytes	5.7xl0 9/1
monocytes	1.2xl0 9 /I
eosinophils	0.6x10 9/1
basophils	0.3xl0 9/1
platelets	104xl0 9 /I
ESR	113 in the first hour

Urine showed no abnormal cells and culture was sterile

(a) What further investigations would help to establish a diagnosis ? (30 marks)

(b) Discuss the differential diagnosis, and give the most likely cause of this child's illness (20 marks)

(c) Discuss in detail how you would manage this patient (50 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 1997

Date :- 7th January, 1997 Time : 9.00 a.m. - 12.00 noon

PAPER II

STRUCTURED QUESTIONS

Answer all questions
Answer each question in a separate book.

1.

(a) What abnormalities in blood gases would you expect in a baby with Meconium aspiration syndrome ? (20 marks)

(b) Mention the Radiological abnormalities seen in this condition. (20 marks)

(c) What are the serious sequalae of this condition ? (20 marks)

(d) Briefly outline the management of a baby with meconium aspiration syndrome. (40 marks)

2.

(a) Mention four causes of diurnal urinary incontinence in a six year old child. (1 0 marks)

(b) What symptoms and signs would help you to differentiate between the Conditions that you have mentioned ? (25 marks)

(c) What investigations would you do and why? (25 marks)

(d) Briefly outline the management of one of the conditions mentioned. (40 marks)

3.

(a) Give possible causes for the appearance of spherocytes on a blood film in a child (20 marks)

(b) Describe the clinical features of one condition characterized by the presence of spherocytes. (30 marks)

(c) How would you investigate a new born infant with spherocytes identified on the blood film ? (20 marks)

(d) What are the problems associated with splenectomy in childhood ? How may their incidence be reduced ? (30 marks)

4.

(a) Give the definition of peri-natal mortality rate. (15 marks)

(b) What is the current WHO definition of the stillbirth ?
How does it differ from the previous one ? (15 marks)

(c) Give four specific interventions which have contributed to a reduction in the perinatal mortality rate in developed countries. (20 marks)

(d) What information do we have about the current perinatal mortality rate in Sri Lanka ? (10 marks)

(e) Briefly outline a strategy to reduce the present peri.natal mortality rate in Sri Lanka. (40 marks)

5.

(a) Name four anti-rabies vaccines currently available in Sri Lanka. (20 marks)

(b) What type of vaccine previously used has now been discontinued ?
Why was it discontinued ? (10 marks)

(c) Define 'severe exposure' and 'minor exposure' to a rabid animal (20 marks)

(d) Describe the management of a four year old boy with a single bite on the face by a stray_dog (40 marks)

(e) How would the management differ if the bite was on the leg ? (10 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY , 1998

Date 6th January, 1998 Time : 2.00 p.m. - 5.00 p.m.

PAPER I

CASE HISTORIES

Answer all questions.
Answer each question in a separate book

PART A

1. A female infant aged 2 hours was admitted to the Neonatal Intensive Care Unit. She was the second of twins born by emergency caesarian section, for fetal distress at 32 weeks gestation. She was intubated at birth for resuscitation and was still being hand bagged with the endotracheal tube in situ at the time of admission. She was pale and oedematous with a birth weight of 2.6 kg. There were bluish – purple patches over the trunk. Liver was 4 cm enlarged. Spleen was not palpable. There were no heart murmurs. She was ventilated from the time of admission to NICU.

   The first twin was still born. She was also pale and oedematous with a birth weight of 3.0 kg. The following investigations were done. Chest xray showed correct tube placement, generalized reticulo granular pattern of lungs, bilateral pleural effusions and cardiomegaly. The pleural effusions were aspirated immediately.

   Hb 4 g/dl
   PCV 12%
   WCC 18.8 x 10 9 /L
   Platelet count 140 x 10 9 /L

   Two packed cell transfusions were given over the next 48 hours under frusemide cover. She lost all her oedema and was weaned off the ventilator. A cord blood sample was taken into an EDTA bottle and regrigerated before the blood transfusion. At one month of age she still requires blood transfusions every 4 - 5 days.

(a) Discuss the differential diagnosis (60 marks)

(b) What is the most likely diagnosis and how would you

2. A 4 year old previously well child was admitted with cough and fever of 4 days duration. There was no past history of asthma or recurrent respiratory tract infections. His immunization was complete and there was no contact history of tuberculosis. Mother is a housewife and father is an unskilled labourer.

On Examination

Weight	11 kg (below 3rd centile)
Height 98 cm	(25th centile)
Head circumference	49.5 cm (25th centile)

There was no clubbing, lymphadenopathy or pallor. There was impaired percussion and crepitations in the right lung base. A chest Xray showed a right basal pneumonia. He was commenced on Benzyl Penicillin and Gentamicin. He continued to have high swinging temperature and on the 8th day after admission became dyspoenic. Liver was palpable 2 cms below the right costal margin. Breath sounds were reduced in right lung base. He was febrile and toxic.

Investigations - Erythrocyte Sedimentation Rate 125rnm (1st hour)
White Cell count - 20.4 x 10 9/L
Neutrophils - 16.2 x 10 9/L
Lymphocytes - 4.2 x 10 9/L

(a) What is the differential diagnosis at this stage ? (40 marks)

(b) What further investigations would you do in this child ? (30 marks)

(c) What is the further management of this child ? (30 marks)

PART B

3. A 6 year old boy presents with increasing difficulty in walking of 2 months duration, loss of appetite and lethargy. He is on low dose nightly proplylexis with co-trimoxazole following recurrent urinary tract infections. The micturating cystourethrogram performed one year ago showed grade II vesico ureteric reflux. He has had no breakthrough infection in the past one year. He has no bladder or bowel symptoms.

He is the first born in a first cousin marriage. His three younger siblings are healthy.

On examination he is pale and the tongue smooth and red. There is increased pigmentation of his palms and soles. The cardiovascular, respiratory and abdominal examinations show no abnormal clinical findings. The blood pressure is 90/60. Neurological examination shows that he is,conscious but apathetic. Cranial nerves are normal. No papilloedema. Power in the upper limbs is grade 4 and and in the lower limbsgrade 3. The tone is diminished, and the tendon reflexes are exaggerated in all 4 limbs. There is no clonus and the plantars are downwards. His gait is ataxic.

Investigations -

Haemoglobin	7.1 gm/dl
White Cell Count	- 5.4 x 10 9/L
Neutrophils	- 2.4 x 10 9/L
Lymphocytes	- 2.3 x 10 9/L
Eosinophils	- 0.4 x 10 9 /L
Monocytes	- 0.3 x 10 9 /L
Platelet Count	- 204 x 10 9 /L
Red Cell Indices	- MCV - 108 fl
	MCHC - 30 pg/cell
Erythrocyte Sedimentation Rate	- 75 mm (Ist hr)
Blood urea	- 4.5 mmol/I
Serum creatinine	- 0.8 mmol/I
Blood picture	- Mild hypochromasia +
	Macrocytes + Ovalocytes +
	Occasional target cells+

(a) Mention the cause of his neurological problem giving reasons for your diagnosis (30 marks)

(b) Write the investigations that would confirm your diagnosis and the likely findings. (40 marks)

(c) Describe how you would manage this patient ? (30 marks)

4. A 17 month old boy presents with irritability and refusal to bear weight on his legs of 2 days duration. He screams when the left leg is moved. He has no fever. The mother is not aware of any trauma to his leg.

He is the second child of a non consanguinous marriage. His brother is 2 1/2 years old and healthy. The parents are healthy. They live in a slum in Colombo. His immunization is incomplete.

On examination he is irritable, has a runny nose and looks dirty. He is not pale. Height and weight are just below the 10^{th} centile. There is localised tenderness over the left tibia, with no swelling, bruising or scars. His development appears appropriate for his age. There are no other abnormal physical findings.

The Xray of the left tibia shows a recent fracture and a previous healed fracture.

(a) Discuss the differential diagnosis (20 marks)

(b) What additional information in the history would be useful in reaching a diagnosis ? (30 marks)

(c) Describe the radiological features that would help you to arrive at a definitive diagnosis. (25 marks)

(d) Describe the management of this child according to the condition you consider most likely. (25 marks)

PART C

5. A previously healthy 13 year old girl presented with a dry cough of approximately 4 weeks duration. She was the older of two children. Her younger brother aged 8 year had mild cerebral palsy. Both parents were healthy and non-smokers. She admitted to having lost some of her appetite recently but denied losing any weight. She had no other significant symptoms.

   On physical examination she was a pubescent girl. Her height was 155 cms and her weight was 41.5 kg. There was a palpable mass in the right axilla approximately 3 cms. across which was firm and non-tender. There were no other masses palpable and neither liver or spleen were clinically enlarged.

   A chest X-ray showed a widened mediastinum more prominent on the right side.

   (a) Discuss the differential diagnosis indicating the most likely cause(s) of her symptoms. (40 marks)

   (b) Which further investigations would you consider most important and why ? (30 marks)

   (c) Describe in detail how you would manage the condition you consider the most likely diagnosis. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART 11 EXAMINATION
JANUARY, 1998

Date:- 6th January, 1998 Time : 9.00 a.m. - 12.00 noon

PAPER II

STRUCTURED QUESTIONS

Answer all questions
Answer each question in a separate book.

1.

(a) Describe the importance of iron to the infant and young child. (30 marks)

(b) What are the main causes for iron deficiency anaemia in childhood? (30 marks)

(c) Describe the laboratory findings in iron deficiency anaemia. (20 marks)

(d) How may the principal causes of iron defiency anaemia be prevented? (20 marks)

2.

(a) What is meant by post neonatal mortality? (5 marks)

(b) Describe the principal causes of post neonatal mortality. (30 marks)

(c) What are the main causes of death in children over five years of age ? (30 marks)

(d) Describe in detail the measures you might take to reduce mortality in children over five years of age in Sri Lanka. (35 marks)

3.

(a) What are clinical indications for use of Aspirin in Paediatric practice ? (20 marks)

(b) Describe briefly how it is used in each of these conditions. (10 marks)

(c) List the clinical situations in which use of Aspirin may be contraindicated. Briefly indicate the reasons for its contraindication. (30 marks)

(d) Describe the clinical and biochemical features of acute salicylate poisoning in childhood. (40 marks)

4.

(a) In a child with suspected encephalitis what clinical features would make you think of Herpes simplex being the aetiological agent. (25 marks)

(b) What investigations will help to confirm your suspicion ? Mention the characteristic abnormalities in each briefly. (25 marks)

(c) Describe briefly the specific treatment for Herpes simplex encephalitis. (10 marks)

(d) Enumerate the criteria for establishing brain death in a deeply comatosed comatosed child who has been on IPPV for more than a week. (40 marks)

5.

(a) What clinical features would be most helpful in the assessment and differential diagnosis of a newborn with Thrombocytopenia ? (30 marks)

(b) Write an account of the laboratory investigations that should be carried out and explain their purpose. (20 marks)

(c) Outline the principles of management. (30 marks)

(d) Write a brief account on Neonatal AlloimmuneThrombocytopenia. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 1999

Date: 13th January, 1999 Time: 9.00-12.00 noon

PAPER I

CASE HISTORIES

Answer each question in a separate book.

1. 12 day old male infant admitted with poor feeding, incessant crying, intermittent drowsiness and poor weight gain. One male sibling aged 2 1/2 years is very well and healthy. This baby delivered by caesarian section at 35 weeks because of maternal preclampsia. Birth weight 2740 grams.

   On examination thin, sleepy, poorly perfused. Weight 2290 grams.Afebrile, no abnormalities in heart, chest or abdomen.

   Blood tests: Hb - 17 G/dI. White cell count – 14.7 x 10 9
   Urea 9.2 mmol/L, Creatinine - 78 mmol/L, Sodium - 125 mmol/L,
   Potassium - 5.0 mmol/L, Bicarbonate - 11 mmol/L,
   Glucose - 2.9 mmol/L

   (a) Describe your initial management of this baby. (30 marks)

   (b) What is the likely diagnosis and what tests would you like to do to confirm this? (30 marks)

   (c) How would you manage this patient in the long term ? (30 marks)

   (d) What advice would you give the parents ? (10 marks)

2. A 4 year old boy is referred to you by the surgical registrar for evaluation of a generalized convulsion of 10 minutes duration which the child had developed in the ward. The D.M.O., Kalpitiya had transferred him to the Children's hospital for investigation and treatment of suspected intestinal obstruction due to round worms. The child had vomited several times prior to admission. The vomitus was bile stained towards the end and also contained a few round worms. He had been having recurrent abdominal pain in the past and this had increased in severity during the past two days. His bowel habits were not regular and he had not had a bowel motion during the past 3 days. He did not have any urinary symptoms.

The child's guardian is the local health volunteer worker as there was no one in the family to stay with the child in the hospital. The mother is employed as a domestic aid in the Middle East and had not come home for the last 3 years. The father is generally out in the sea for 2 to 3 days, and often comes home drunk. The patient is the last of 5 children living in a 'Vadiya' in the sea beach, 15 miles away from Kalpitiya town. The eldest child is a girl 15 years old.

He has had 2 similar afebrile convulsions during the past 3 months for which the local doctor has prescribed Phenobarbitone 30 mg. twice daily. He was born full term following a normal delivery and development during the first year has been satisfactory. However from the latter part of the second year onwards his progress has been unsatisfactory.

The health worker says that this child does not appear to be "normal" now and different from other children of the same age. He has been very difficult to look after. His schooling elder sister who cooks the meals, consisting mainly of rice and vegetables and an infrequent meal of fish, finds it difficult to feed him. The neighbours overlook him during the day.

On examination his general hygiene is very unsatisfactory with infestation of the scalp with lice. There was evidence of scabies and other healed and healing scars in all four limbs. He is anaemic and milday dehydrated. He is now sedated after the convulsion. Weight is on the 3^{rd} centile. Height is below the 3rd centile and the OFC on the 25^{th} centile. No signs of avitaminosis, or any abnormalities in the skin and the bones. CVS, Respiratory and Central nervous systems were clinically normal. Examination of the optic fundi revealed a retinal hemorrhage. The abdomen was moderately distended and tender. There were 2 to 3 irregular firm small masses palpable along the descending colon.

In an erect X-ray of the abdomen no fluid levels were seen but the X-ray also shows the upper limbs fairly clearly, and only two carpal bones were seen at the wrist joints. A routine full blood count, blood film, blood urea serum electrolytes and a blood sugar has been sent to the lab.

Discuss the likely causes for his fits and how would you investigate him further to extablish the diagnosis. (40 marks)

(a) Enumerate 3 likely causes for his anaemia. (15 marks)

(b) What further information will you look for in the investigations requested and are available ? (15 marks)

(c) What are the likely causes for his retarded bone age ? (10 marks)

(d) Outline the long-term management plan for this child. (20 marks)

3. A 12 year old girl was admitted with a history of headache, dizziness confusion and restlessness. She is an elite athlete resident in Kandy and was brought into hospital straight from a cross-country marathon race in Anuradhapura. She had been running continuously for 3 hours. She was not able to continue the race and it took about an hour to transport her to Anuradhapura Hospital from the field.

On examination she was well grown and tall for her age with a substantial amount of sub-cutaneous fat. She was disorientated, confused and drowsy. The skin was flushed and dry. There was mild cyanosis of the face and lips. The mucous membranes were dry. She had defaecated in her track suit and she vomited on admission. The vomitus was clear. The supine BP was 90/50. The respiratory rate was 68 per minute and the lungs were clear on auscultation. She had a pulse rate of 142 per minute, regular and there were no cardiac murmurs. There was muscular twitching but she was able to move all 4 limbs and there were no focal neurological signs. She was able to obey commands.

(a) What is your clinical diagnosis? (30 marks)

(b) Name a clinical procedure that would confirm this diagnosis. (10 marks)

(c) Name two urgent investigations that would be useful in the immediate management of this child? (10 marks)

(d) What measures would you undertake to treat her immediately ? (30 marks)

(e) What is the prognosis of this condition ? (10 marks)

(f) Name two delayed complications of this disorder ? (10 marks)

4. Female aged 7 years 9 months referred because of breast enlargement. She had been seen at 15 months because of motor delay. At that stage she was a bottom shuffler who couldn't pull herself to stand although her general development and upper limb functions were normal. At that time she had lower limb hypotonia and a head circumference of 52 cm. with an open anterior fontanelle. At age 3 she had two tonic - clonic seizures and was given an anticonvulsant. After 2 years this was stopped and she has had no further fits.

Now she is well but has stage 3 breast development, but has no pubic hair. At 7 years 9 months she has a height of 132 cm. (95th centile) and a weight of 35 Kg. (97th centile).

(a) What is the probable diagnosis and the underlying cause ? (30 marks)
(b) What further tests would you like to do ? (40 marks)
(c) Outline the treatment options. (20 marks)
(d) What are you going to tell the parents ? (10 marks)

5. An 18 month old boy was admitted with a history of intermittent fever of 34 days duration. Up to the present illness he had been healthy. His birth weight was 3.2 Kg. and he had an uneventful neonatal period. The fever was high at times and was present almost everyday. He had become anorexic and had lost 1.6 Kg. during this illness. There was no vomiting or diarrhoea during the present illness but two months ago he had been treated for a mucoid diarrhoea. There was no history of any respiratory disorders.

On examination he was midly pale, febrile, conscious, alert and irritable. He did not like being carried and was more comfortable in the supine position. There was no oedema, skin rash, cyanosis, jaundice or lymphadenopathy. Cardiovascular and respiratory systems were clinically normal. The liver was enlarged 6 cm. below the costal margin with the upper border in the 4^{th} intercostal space in the mid-clavicular line. It was firm and tender. The spleen was not palpable. No other palpable masses were detected in the abdomen and there was no ascites. The central nervous system was normal.

(a) Name two possible causes for the clinical findings ? (20 marks)
(b) Name three investigations that would specifically help you to confirm the diagnosis and outline the possible abnormalities in them ? (45 marks)
(c) Outline briefly the management of the two possible diagnosis ? (35 marks)

POSTGRADUATE INSTITURE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATICN
JANUARY, 1999

Date :- 12th January, 1999 Time :- 9.00 a.m. - 12.00 noon

PAPER II

STRUCTURED ESSAY QUESTIONS

Answer all questions.
Answer each question in a separate book.

1.

1.1 What are the cardinal features that would lead you to suspect Munchaausen's syndrome by proxy ? (30 marks).

1.2 Who is the most likely perpetrator ? (10 marks)

1.3 What reasons have been proposed for a perpetrator to undertake such activity ? (30 marks)

1.4 Give three typical examples of Munchaausen's syndrome by proxy? (30 marks)

2.

2.1 What does "benign" mean in benign rolandic epilepsy ? (25 marks)

2.2 How would you make the diagnosis of benign rolandic eplepsy ? (25 marks)

2.3 What are your theraputic options ? (20 marks)

2.4 You diagnose benign rolandic epilepsy in a 10 year old girl. Discuss the role of counselling in her management. (30 marks)

3. Feeding difficulties are commonly encountered in the management of cerebral palsied children.

3.1 Outline the factors that may contribute to this problem. (40 marks)

3.2 Describe the measures you would take in alleviating this problem. (40 marks)

3.3 Enumerate the benefits derived by a child with spastic quadreplegia, from a successfully conducted feeding session. (20 marks)

4.

4.1 Explain the following terms used in children, giving at least one example each to highlight the clinical relevance.

4.1.1 Variable expression (25 marks)

4.1.2 Genetic Heterogenicity. (25 marks)

4.1.3 Mosaicisim. (10 marks)

4.2 Outline the inheritance pattern in Fragile X syndrome. (20 marks)

4.3 Describe the clinical manefestations of Fragile X syndrome (20 marks)

5.

5.1 Critically evaluate iron chelation therapy in Sri Lanka. (50 marks)

5.2 Discuss "Risk benefit analysis" in drug therapy (25 marks)

4.1. You wish to prescribe to a critically ill child a drug that is licensed for use in adults. Discuss the legal. and ethical issues involved. (25 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY 1999

Date: 13th July, 1999 Time: 9.00 a.m.-12.00 noon

PAPER I

CASE HISTORIES

Answer each question in a separate book.

1. 12 day old male infant admitted with poor feeding, incessant crying, intermittant drowsiness and poor weight gain. One male sibling aged 2 1/2 years is very well and healthy. This baby delivered by caesarian section at 35 weeks because of maternal preclampsia. Birth weight 2740 grams.

   On examination thin, sleepy, poorly perfused. Weight 2290 grams. Afebrile, no abnormalities in heart, chest or abdomen.

   Blood tests: Hb -17 G/dl. White cell count -14.7 x 109
   Urea 9.2 mmol/L, Creatinine -78 mmol/L, Sodium -125 mmol/L,
   Potassium -5.0 ffiQol/L, Bicarbonate -11 mmol/L,
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   (a) Describe your initial management of this baby. (30 marks)

   (b) What is the likely diagnosis and what tests would you like to do to confirm this? (30 marks)

   (c) How would you manage this patient in the long term (30 marks)

   (d) What advice would you give the parents? (10 marks)

2. A 4 year old boy is referred to you by the surgical registrar for evaluation of a generalized convulsion of 10 minutes duration which the child had developed in the ward. The D.M.O., Kalpitiya had transferred him to the Children's hospital for investigation and treatment of suspected intestinal obstruction due to round worms. The child had vomited several times prior to admission. The vomitus was bile stained towards the end and also contained a few round worms. He had been having recurrent abdominal pain in the past and this had increased in severity during the past two days. His bowel habits were not regular and he had not had a bowel motion during the past 3 days. He did not have any urinary symptoms.

The child's guardian is the local health volunteer worker as there was no one in the family to stay with the child in the hospital. The mother is employed as a domestic aid in the Middle East and had not come home for the last 3 years. The father is generally out in the sea for 2 to 3 days, and often comes home drunk. The patient is the last of 5 children living in a 'Vadiya' in the sea beach, 15 miles away from Kalpitiya town. The eldest child is a girl 15 years old.

He has had 2 similar afebrile convulsions during the past 3 months for which the local doctor has prescribed Phenobarbitone 30 mg. twice daily. He was born full term following a normal delivery and development during the first year has been satisfactory. However from the latter part of the second year onwards his progress has been unsatisfactory.

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On examination his general hygiene is very unsatisfactory with infestation of the scalp with lice. There was evidence of scabies and other healed

and healing scars in all four limbs. He is anaemic and mildly dehydrated.

He is now sedated aftea the convulsion. Weight is ontfihe 3rd centile. Height is below the 3r centile and the OFC on the 25 centile. No signs of avitaminosis, or any abnormalities in the skin and the bones. CVS, Respiratory and Central nervous systems were clinically normal. Examination of the optic fundi revealed a retinal hemorrhage. The abdomen was moderately distended and tender. There were 2 to 3 irregular firm small masses palpable along the descending colon.

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seen at the wrist joints. A routine full blood count, blood film, blood urea serum electrolytes and a blood sugar has been sent to the lab.

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(b) Enumerate 3 likely causes for his anaemia. (15 marks)

(c) What further information will you look for in the investigations requested and are available? (15 marks)

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3. A12 year old girl was admitted with a history of headache, dizziness confusion and restlessness. She is an elite athlete resident in Kandy and was brought into hospital straight from a cross-country marathon race in Anuradhapura. She had been running continuously for 3 hours. She was not able to continue the race and it took about an hour to transport her to Anuradhapura Hospital from the field.

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(a) What is your clinical diagnosis? (30 marks)

(b) Name a clinical procedure that would confirm this diagnosis. (10 marks)

(c) Name two urgent investigations that would be useful in the immediate management of this child? (10 marks)

(d) What measures would you undertake to treat her immediately? (30 marks)

(e) What is the prognosis of this condition ? (10 marks)

(f) Name two delayed complications of this disorder? (10 marks)

4. Female aged 7 years 9 months referred because of breast enlargement. She had been seen at 15 months because of motor delay. At that stage she was a bottom shuffler who couldn't pull herself to stand although her general development and upper limb functions were normal. At that time she had lower limb hypotonia and a head circumference of 52 cm. with an open anterior fontanelle.

At age 3 she had two tonic -clonic seizures and was given an anticonvulsant. After 2 years this was stopped and she has had no further fits.

Now she is well but has stage 3 breast development, but has no pubic hair. At 7 years 9 months she has a height of 132 cm. (95^{th} centile) and a weight of 35 Kg. (97^{th} centile).

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5. An 18 month old boy was admitted with a history of intermittent fever of 34 days duration. Up to the present illness he had been healthy. His birth weight was 3.2 Kg. and he had an uneventful neonatal period. The fever was high at times and was present almost everyday. He had become anorexic and had lost 1.6 Kg. during this illness. There was no vomiting or diarrh8ea during the present illness but two months ago he had been treated for a mucoid diarrhoea. There was no history of any respiratory disorders.

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(a) Name two possible causes for the clinical findings? (20 marks)

(b) Name three investigations that would specifically help you to confirm the diagnosis and outline the possible abnormalities in them? (45 marks)

(c) Outline briefly the management of the two possible diagnosis ? (35 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY. 1999

Date:-12th July 1999 Time: 2.00 p.m. -5.00 p.m.

PAPER II

STRUCTURED ESSAY QUESTIONS

Answer all questions.
Answer each question in a separate book.

1.

1.1 Mention 5 different ways in which the fetal circulation differs from the neonatal circulation. (25 marks)

1.2 What changes occur in the stroke volume, cardiac output and heart rate after birth ? (10 marks)

1.3 What are the immediate postnatal changes in pH, pC02 and p02 in the term newborn infant ? (15 marks)

1.4 List 5 important changes that occur in the cardiovascular system of the newborn immediately after birth. (20 marks)

1.5 Give 2 ways in which the cardiovascular system of the premature infant differ from that of the term infant in the postnatal period. (10 marks)

1.6 What is the most important function of prostaglandin in the immediate postnatal period ? (10 marks)

1.7 Give 2 neonatal situations where the use of prostaglandins is contraindicated? (10 marks)

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100 marks

2.

2.1 Outline the treatment of diabetic ketoacidosis in a 10 year old. (30 marks)

2.2 What are the physiological and pathological processes which can lead to death in childhood diabetes? (30 marks)

2.3 How can we improve the prognosis in childhood diabetes ? (20 marks)

2.4 What are the reasons for children developing diabetes mellitus ? (20 marks)

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100 marks

3.

3.1 In a six month old infant with infantile spasms, what clinical features would alert the physician to the possibility of tuberous sclerosis ? (20 marks)

3.2 List the known cardiac abnormalities and their clinical presentation in tuberous sclerosis. (20 marks)

3.3 Outline the management (including the current treatment) of infantile spasms. (30 marks)

3.4 What factors influence the prognosis in infantile spasms ? (30 marks)

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100 marks

4

4.1 What clinical observations help in differentiating conjugated from unconjugated hyperbilirubinaemia in newborns ? (20 marks)

4.2 Why is it important to investigate conjugated hyperbilirubinaemia as soon as possible ? (30 marks)

4.3 An active and well, totally breast fed baby still has unconjugated hyperbilirubinaemia at three weeks of age. How would you manage this problem ? (30 marks)

4.4 What genetically based causes of neonatal jaundice are you aware of ? (20 marks)

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100 marks

5

5.1 Give 5 causes of an acute painful swelling of the scrotum in a child. (15 marks)

5.2 How will the history and physical examination help in arriving at a diagnosis ? (40 marks)

5.3 Which laboratory study has been found to be useful in the diagnosis of a child with an acute scrotal swelling ? (05 marks)

5.4 Give 2 imaging studies which have improved diagnostic accuracy in management of children with acute scrotal swelling. (10 marks)

5.5 Briefly discuss the clinical features and management of 3 causes of acute painful swelling of the scrotum in children. (30 marks)

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100 marks

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART 11 EXAMINATION
JANUARY- 2000

Date :- 18th January, 2000 Time : 9.00 a.m. - 12.00 noon

PAPER I

CASE HISTORIES

Answer each question in a separate book.
Answer all questions.

1. 12 year-old male admitted to hospital with a three-month history of increasing abdominal swelling. Occasional abdominal pain after food but no vomiting or disturbance of bowel function. Gets breathless on exertion and more tired than usual.

He has had no serious illness in the past. 2 siblings and the parents are all well.

Examination :

Not distressed, small for age and prepubertal.
Not anaemic, cyanosed , or jaundiced.
Pulse rate 98/mt, RR 24/mt, BP 105/80 mm. Hg.
Abdomen : distended with visible veins and shifting dullness,
Liver 3 cm below costal margin, spleen not felt.
No ankle oedema
Soft squeaky systolic heart murmur

Initial blood test results :-

Hb 13.3 gm/dl, WBC 5600 cells/mm3, ESR 40 mm/1st hr.
Urea 3.5 mM/L Creatinine 55 mM/L,Na 141, mMW/L,K 3.7mW/L,
Bicarbonate 23 mM/L, Protein 68, Gm/dl, Globulin 28 G/dl
Bilirubin 19 mM/L

(a) What disease processes could cause this clinical picture ? (30 marks)
(b) What three additional investigations would you require, giving reasons. (30 marks)
(c) What is the probable diagnosis ? (30 marks)
(d) Outline the treatment (10 marks)

2. A 2.8 kgm. baby was born at term, at a peripheral unit to a 28 year old woman following her 2nd pregnancy. Her pregnancy was uneventful except that she is an epileptic on medication. The delivery was normal with an Apgar score of 8 at 2 minutes.The baby and the mother were sent home the following day after been found normal by the DMO. He was strictly breast fed. The field midwife who visited them on the 3rd day found no reason for concern. The baby fed well and there was no elevation of the temperature. The baby remained well till the 4th day when he started vomiting blood. The examination of the baby did not reveal any abnormality except that he was anaemic. Originally the vomitus was coffee ground but later it became frank blood. He appeared pale but continued to feed. There was no bleeding from any other sites. The elder child is normal and there was no family history of bleeding disorders. There were no petechiae in the skin. Liver and spleen were not enlarged. Later in the day the baby developed two convulsions after which he remained drowsy and lethargic. The fontanelle was not bulging. The neonatal reflexes were not well demonstrable.

Investigations :

WEC 12,900 cells/cumm, N 60% L, 40%,
Platelet count 300,000/cu mm.
Bleeding times, 5 mts. Clotting time 8 mts.

(a) What is your diagnosis on day 4 giving the likely reasons (30 marks)
(b) Give 2 likely reasons for the baby's convulsions (30 marks)
(c) Name 2 useful and important investigations that are indicated that can be done at a provincial hospital (20 marks)
(d) How could these problems have been prevented ? (20 marks)

3. A five month old boy was admitted to hospital following a generalised clonic seizure lasting 5 minutes. He had developed diarrhoea and fever before admission. The stools were watery and the frequency had increased gradually to 8 to 10 times a day on the last day. The mother was concerned that the baby had not taken any food for about 12 - 16 hours before admission.

The infant was born in hospital and was a normal, spontaneous vaginal delivery, birth weight 3kg. There were no perinatal problems. The baby had been reviewed at the well baby clinic at 3 months and at 5 months, a few days before this illness. The routine immunizations had been carried out. The weight recorded at the last clinic visit had been 9.4 kg.

At the time of admission the baby was febrile, (temp 101 F), drowsy and weighed 8.4 kg. He was irritable when handled and had a high pitched cry. The anterior fontanelle was flat and there was no neck stiffness or Kernig sign. The

muscle tone was increased and the reflexes were brisk. The heart rate was 128/mt, and the respiratory rate 56/mt. There were no other clinical abnormalities.

(a) Describe your initial management (investigations and treatment) of this infant. (30 marks)

(b) What additional clinical information would help in the immediate managment and follow-up ? (20 marks)

(c) Discuss giving reasons the likely clinical problems encountered in this infant ? (30 marks)

(d) Describe any anticipated changes from the initial management after the results of the investigations are available. (20 marks)

5. Female infant born at a mother's third pregnancy as a normal delivery at 39 weeks. The birth weight was 3300g and the head circumference was 37cms. The baby was admitted to hospital at 2 weeks with poor feeding although weight had been gained. Examination showed a pink baby with a pulse rate of 160/min. respiratory rate of 60/min. with no fever. The baby was sweating, the liver was 2 cms palpable below the costal margin, the pulses were full and bounding and there were crepitations in both lungs. The weight was 35OOg and the head circumference 39 cms. There was a soft systolic murmur. Investigations included an echocardiogram which revealed no structural defect in the heart and great vessels.

(a) What physioloical process is making this baby unable to feed ? (30 marks)

(b) What investigations would help to confirm this ? (30 marks)

(c) What explanation fits all the clinical facts ? (30 marks)

(d) Discuss the treatment options. (10 marks)

5. A 12 year old girl was brought to the outpatient's department with a history of swelling of face and neck of a few hours duration. She had first developed swelling of the upper lip the day before and was treated by a G.P. Whilst in the outpatient's department she had developed difficulty in breathing with tightness in the throat, chest pain and sweating. The child was immediately taken to the emergency treatment unit. On examination she appeared ill with facial oedema most marked in the periorbital region and upper and lower lips. There was mild central cyanosis, heart rate 160/min, BP 60/40mmHg. There was difficulty in breathing with a respiratory rate of 40/min. The air entry was satisfactory but

there were few scattered rhonchi. Weight 28 Kg, Height 135 cms - both around the 10^{th} centile.

(a) What emergency treatment would you carry out on this girl ? (40 marks)

This girl gives a previous history of several episodes of facial swelling with localized swellings of limbs lasting a few days for the past three years. There had been no redness or discolouration noted. She had also been admitted twice to a surgical ward with intestinal colic and vomiting managed conservatively and discharged in a few days.

(b) What is the likely diagnosis and explain briefly the mechanism involved in production of her various symptoms ? (30 marks)

(c) What further information and investigations would help in confirming the clinical diagnosis ? (15 marks)

(d) How would you manage this patient in the long term ? (15 marks)

POSTGRADUATE INSTITUTE OF MEDICINIE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS ON PART II EXAMINATION
JANUARY, 2000

Date: 17th January, 2000 Time: 2.00 p.m.- 5.00 p.m.

PAPER 11

STRUCTURED ESSAY QUESTIONS

Answer all questions.
Answer each question in a separate book.

1.

1.1 The mean IQ of twins at follow up is around 95. First-born singletons have an average IQ of around 102. Give some reasons why twins don't perform as well. (25 marks)

1.1 In twins why is zygosity important ? (15 marks)

1.3 What methods are there to determine zygosity ? (20 marks)

1.4 What problems occur in the newborn period in twins? (20 marks)

1.5 What factors influence the incidence of multiple births? (20 marks)

2.

2.1 Define neonatal polycythaemia. (10 marks)

2.2 What are its causes? (20 marks)

2.3 What are the symptoms and signs? (20 marks)

2.4 What are the complications? (15 marks)

2.5 What investigations are indicated? (10 marks)

2.6 How should neonates with polycythaemia be managed? (25 marks)

3.

3.1 Give a brief definition of the Attention Deficit Hyperactivity Disorder (ADHD) (25 marks)

3.2 How would you diagnose this condition? (10 marks)

3.3 List five (05) conditions that may clinically resemble ADHD. (15 marks)

3.4 Briefly outline the different types and sources of information for it's diagnosis And assessment. (20 marks)

3.5 Outline the treatment strategies for this condition and give their advantages and disadvantages. (30 marks)

4. A 2 year old boy presents with poor walking and possible pain in the left leg for 3 days.

4.1 If there is limitation of movement in the left hip what would you do? (25 marks)

4.2 If there was swelling of the left knee what would you do? (25 marks)

4.3 If there was bruising of the left leg what would you do? (25 marks)

4.4 Outline the management of acute septic arthritis. (25 marks)

5.

5.1 Where is the Von Willebrand factor synthesised ? (10 marks)

5.2 What are the 2 key roles played by the von Wiliebrand factor in normal haemostasis? (10 marks)

5.3 What are the 3 major categories of von Willebrand disease? (15 marks)

5.4 Which non-transfusional therapy has become the mainstay for most patients with mild von Willebrand disease? (10 marks)

5.5 How would you manage haemorrhage in a haemophiliac with Factor VIII antibodies? (40 marks)

5.6 Name the agents used in the clinical laboratory to induce platelet aggregation. (15 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2001

Date: 16th January, 2001 Time: 9.00 a.m. - 12.00 noon

PAPER I

CASE HISTORIES

Answer All questions.
Answer each question in a Separate book.

1. M. aged 12 years was admitted with a one day history of deep jaundice. pain in the hypochondrium, fever and sweating. He was in severe pain with tenderness in the right upper quadrant and his spleen was palpab12 6cm below the costal margin. He was advised a low-fat diet and reviewed after the weekend when his pain had disappeared and his jaundice was clinically less.

He had attended the Paediatric Department since diagnosis at birth of a condition which affected him, his mother, maternal grandfather and maternal great grandmother. The great grandmother had needed surgery for a complication of the condition but M. 's elder brother is unaffected.

M.'s mother had bitter memories of blood tests in her childhood and steadfastly refused to discuss her condition. M. would allow only infrequent blood tests, but did occasionally attend the clinic when he was noted to be moderately jaundiced, not clinically anaemic but with his spleen always palpable 3-4cm below the costal margin.

Two years before M. 's admission his mother had suffered a cerebral thrombosis; causing hemiplegia. She was found to have a combined deficiency of Protein C and S. M. and his brother were found to be affected also.

Investigations on admission were as follows:

Hb 12.1 g/dl
MCV 88.8fl (76-96)
MCH 32.9pg (27-32)
MCHC 37.0 g/dl (30-37)
WBC 7. 6 x 10^9/ L with 7 5 % neutrophils

ESR l2mm/hour; CRP 4.0 mg/l
Urine microscopy normal and culture sterile
Blood culture no growth after 5 days
Blood urea 6.5 mmol/1 with normal electrolytes
Serum bilirubin 758 (conjugated ,422) pmo l/l
Serum aspartate transaminase 148 U/l (5-40)
Serum alkaline phosphatase 329 U/l (135-450)
Serum protein total 67 and amlbumin 48 G/I

1.1. What is the most likely underlying haematological condition? (10 marks)

1.2. What is the recent complication? (10 marks)

1.3 What first-line investigation should demonstrate this? (05marks)

1.4. What aspects of management have contributed to the present crisis? (30 marks)

1.5. What definitive treatment is now indicated? (10 marks)

1.6. What is the short-term risk of this treatment ? (10 marks)

1.7. What is the long-term risk from this treatment and how could it be prevented? (10 marks)

1.8 If M. has this treatment, what are the genetic implications for his children? (15 marks)

2. Twins, born at term were fully breast-fed. (No formula milk had been given) Their mother is a vegetarian. The twins had not been taken regularly for routine clinic visits.

Both twins took little food apart from breast milk. The girl ate small amounts of varied solids from 6 months of age. The boy ate rice and other vegetables occasionally.

Twin 1 (female) presented at 3 months of age with roving nystagmus and was found to have partial albinism. She has brown eyes.

Twin 2 (male) was referred at age 11 months because of delayed motor milestones and a large head.

Investigations were as follows:

	Mother	Female Twin	Male Twin
HB (8/dl)	11.2	10.3	7.9
MCV (fl) (Normal 76-92)	89.2	74.3	54.9
Ferritin (ng/ml) (Normal 15-300)	10.0	10.9	8.7
HB electrophoresis	Normal	Normal	Normal
Serum calcium (mmol/1) (Normal 2.1-2.6)	2.25	2.59	2.20
Serum Phosphate (mmol/1) (Normal 0.8-1.4)	1.43	1.9	0.81
Serum alkaline phosphatase (U/1) (Normal adult 30-155)	122	537	3732

2.1. What are the two diagnoses in the twins? (20 marks)

2.2. Give three likely contributary causes for the abnormalities of calcium metabolism. (30 marks)

2.3 Give reasons why the boy twin was more severely affected. (20 marks)

2.4 Give reasons for the boy twin's problem. (30 marks)

3. A 3-week-old baby was admitted from Paediatric outpatients with a history of progressive vomiting of 9 days duration. She was born at term following an uncomplicated pregnancy and delivery, weighting 3.25 Kg. but has been rather slow at birth due to pethidine administered to the mother, a few hours before delivery. She picked up following the administration **of I.V.** naloxone along with other resuscitation measures but was observed in the SCBU for the next 6 hours before being given to the mother.

She is the only child of this 28-year-old mother who lost her husband in the separatist war, when she was 7 months pregnant.

The vomiting began around day 12 and progressively got worse, and one occasion the vomitus had contained a little blood. She was alert despite vomiting and fed reasonably well. Her urine bas been rather dark.

On examination, the baby was jaundiced looked thin and weighed 2.85Kg.

3.1 What other specific clinical features would assist in arriving at a diagnosis. (35 marks)

3.2 Give three possibilities with reasons to account for the clinical picture outlined above. (45 marks)

3.3 Discuss the investigations that would be helpful in arriving at a diagnosis. (20 marks)

4. A 7 year old boy is admitted with a history of fever for one week and stridor of one days duration. This previously healthy boy had developed an insidious onset fever and sore throat which made him progressively more ill, with the fever becoming high and intermittent. He refused both food and drink. His general practitioner had suspected a urinary tract infection due to swelling of both eye lids which were noted from the 3rd day onwards but the urine tests which included a culture had been negative.

On examination he looks ill, has periorbital oedema, a mild inspiratory stridor, is not pale or cyanosed. There is significant bilateral cervical lymph node enlargement and the liver and spleen are 2cm and 2.5cm below the costal margins, respectively.

Investigations show a white cell count of $15x10^9$ /1 (66% lymphocytes, 30% polymorphs and 4% monocytes). Hb 12 g/dl. Platelet count 125 x 10^9/l. SGPT - 58 IU/1 (normal <40 IU/I). On investigating, the urine was free of protein and normal on microscopy.

4.1 What is the most likely diagnosis? (20 marks)

4.2 What other diagnoses would you consider? (20 marks)

4.3 What further physical signs would you elicit to help establish a diagnosis ? (30 marks)

4.4 Mention the laboratory investigations that would help confirm the most likely diagnosis. (20 marks)

4.5 What is the pathogenesis/cause of the stridor in this patient? (10 marks)

5. A 6 year old boy is transferred to your unit with painful swellings of both knees and a swollen left ankle joint. He has been treated in the local hospital for these symptoms which have shown some improvement during a 12 day hospital stay but has increased during the past 2 days.

This previously healthy child had developed sudden onset joint swellings and low grade fever since 3 weeks ago. The mother complains that he has been very lethargic during this illness and has dark urine with a reduced output in the past few days.

On examination he is irritable and in pain when moving the limbs. He is febrile, the temperature is 38-C, and has a tender swelling over the dorsum of the left hand. Both knees and the left ankle are swollen and tender. Movement at other joints are full and pain free. Is there a rash over the trunk and limbs. There is no significant lymphadenopathy. The spleenis palpable 2cm below the costal margin.

He has been treated as for rheumatic fever with aspirin and one dose of benzathine- penicillin in the local hospital. The, only investigations performed have shown an ESR - 40 mm/1st hour, and wee 17.8 x 10^9 /L (polymorphs 47%, lymphocytes 45%, eosinophils 8%).

5.1 Mention the possible diagnoses giving reasons. (45 marks)

5.2 Describe your initial management (investigations and treatment). (30 marks)

5.3 Discuss the laboratory investigations that would help in establishing a diagnosis. (25 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2001

Date: 15th January, 2001 Time: 2.00 p.m. - 05.00 p.m.

PAPER II

STRUCTURED SESSAY QUESTIONS

Answer All questions.
Answer each question in a Separate book.

1.

1.1 How is hepatitis B infection transmitted at birth? (25 marks)

1.2 What are the long-term complications? (25 marks)

1.3 Describe in detail how this infection may be prevented at birth. (50 marks)

2.

2.1 What are the key ingredients of oral rehydration solution? (10 marks)

2.2 Discuss how the therapy works with reference to the function of the brush border (microvilli) of the small intestine. (35 marks)

2.3 For which types of diarrhoea is it particularly effective ? (20 marks)

2.4 How may its composition be varied? (35 marks)

3. Paediatric HIV infection is an increasing global problem.

3.1 Give 5 different ways in which children may become infected With HIV (25 marks)

3.2 Describe the different clinical presentations of HIV infection in children. (40 marks)

3.3 What are the tests presently used to confirm HIV infection in children under the age of 15 months? (20 marks)

3.4 What are the 3 main groups of antiretroviral drugs? (15 marks)

4.

4- 1 Outline the important steps and the key mediators involved in the inflammatory cascade of the sepsis syndrome. (30 marks)

4.2 What physical signs would be most helpful in the assessment of the clinical state in a child seriously ill due to severe sepsis? (30 marks)

4.3 In addition to using powerful antibiotics what other therapeutic measures would you undertake in the above situation? (20 marks)

4.4 Write a brief account of new strategies that are being developed in combating some of the ill effects encountered in severe sepsis. (20 marks)

5.

5.1 Mention 2 common modes of presentation of autoimmune thyroiditis in children. (10 marks)

5.2 How would you establish its diagnosis? (20 marks)

5.3 What is the prognosis for children with autoimmune thyroiditis? (15 marks)

5.4 Name 2 endocrine disorders associated with it. (10 marks)

5.5 Name 2 chromosomal disorders associated with this condition. (10marks)

5.6 How is the hyperthyroidism of Graves' disease distinguished from that occasionally found in autoimmune thyroiditis? (20 marks)

5.7 What is the relationship between autoimmune thyroiditis and hypothyroidism? (15 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY 2001

Date: 16th July, 2001 Time: 2.00 p.m. - 05.00 p.m.

PAPER I

STRUCTURED SEEAY QUESTIONS

Answer All questions.
Answer each question in a Separate book.

1.

1.1 What is mosaicism and how does it occur? (15 marks)

1.2 What is an isochromosome and how is it formed? (15 marks)

1.3 What is a Robertsonian translocation? (10 marks)

1.4 What are the clinical features of the cri du chat syndrome? (30 marks)

1.5 Give 4 differences between Noonan syndrome and Turner syndrome (20 marks)

1.6 Virus-mediated delivery is the most popular gene delivery approach. What are the 2 most common viral vectors used for gene delivery? (10 marks)

2.

2.1 Outline how you would confirm the diagnosis of immune thrombocytopaenic purpura (ITP) in a 2 year old child presenting with a purpuric rash of 3 days duration (20 marks)

2.2 List 5 causes of non thrombocytopaenic purpura in a child (20 marks)

2.3 Mention 5 causes of thrombocytopaenic purpura during the neonatal period (20 marks)

2.4 Briefly discuss advantages and disadvantages of the treatment options available in the management of

(a) Acute ITP (20 marks)

(b) Chronic ITP (20 marks)

3.

3.1. What are the methods by which phototherapy reduces the amount of unconjugated bilirubin in plasma? (15 marks)

3.2 What happens when pho~otherapy is given to a baby with conjugated hyperbilirubinaemia ? (10 marks)

3.3 What are the adverse effects of phototherapy? (25 marks)

3.4 Give 2 indications for neonatal exchange transfusion other than haemolytic disease (10 marks)

3.5 What are the immediate complications/hazards of exchange transfusion? (25 marks)

3.6 Discuss the place of phenobarbitone in the treatment of neonatal unconjugated hyperbilirubinaemia (15 marks)

4.

4.1 Briefly mention the clinical features of severe combined immunodeficiency (SCID) (25 marks)

4.2 Mention the investigations that will help to confirm the diagnosis of the above condition (25 marks)

4.3 Discuss the management of SCID (25 marks)

4.4 How will you advise regarding immunization of a baby born to a mother who was found to be HIV positive (25 marks)

5.

5.1. List the causes of vaginal bleeding in a 6 year old girl (20 marks)

5.2 Mention the symptoms and signs which would help in the differential diagnosis (30 marks)

5.3 Briefly discuss the investigations you would request in this patient (30 marks)

5.4. Outline the management of one of the conditions mentioned in 5.1. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY 2001

Date: 17th July, 2001 Time: 9.00 a.m. - 12.00 noon

PAPER II

CASE HISTORIES

Answer All questions.
Answer each question in a Separate book.

1. A full term baby boy was delivered following a normal pregnancy, birth weight 2.85 kg. The delivery was normal, but the baby had an Apgar score of 1 at 1 minute, and was intubated at birth. He was extubated at 5 minutes and was admitted to the special care baby unit. The subsequent period was uneventful; he fed well and was allowed home on day 7. Just prior to discharge, mild tachypnoea and a soft systolic murmur was noted by the doctor who made arrangements for follow-up 4 weeks. However, the baby was admitted at 3 weeks of age with mild cyanosis and respiratory distress.

   On examination, he weighed 3.52 kg, temperature 36°C. It was noticed that he was mildly cyanosed, and had a respiratory rate of 48/minute with marked subcostal and sternal recession. He was sweating. The peripheral pulses were normal and symmetrical. There was mild right ventricular predominance on palpation, but there was no cardiac murmur audible. There were coarse crepitations in both lung fields and the liver was palpable 3 cm below the right costal margin. The spleen could be tipped. There was no peripheral oedema. The head circumference was 40 cm (above 98th centile) and the anterior and posterior fontanelle were widely open. Central nervous system examination was normal. The ECG showed sinus rhythm 120/mt, right atrial hypertrophy, right ventricular hypertrophy with strain pattern. Chest x-ray showed a large heart with pulmonary plethora.

   1.1 What is the most likely cause for the admission, give reasons for this diagnosis? (30 marks)

   1.2 What is the underlying cause? (25 marks)

   1.3 Mention five other possibilities. (25 marks)

   1.4 What physical examination has been omitted which may have given the clue for diagnosis? (20 marks)

2. A 34 year old Bank Executive brings her six year old son to you as she is worried about his school performance. The boy had just got into grade two in a private school. He is inattentive and disinterested in his school work according to the class teacher. He has also developed a stammer during the last three months.

The boy is the elder of two children, the younger being a girl of six months. The mother had gestational diabetes. He was born by elective LSCS at 37 weeks. Birth weight was 4 kg. He was not asphyxiated, but developed jaundice on the second day and was treated with phototherapy and IV antibiotics for seven days.

His subsequent developmental milestones had been within normal limits according to the mother. The medical history is insignificant except for frequent URTI and two episodes of otitis media which were treated with antibiotics.

In the consultation room you notice the boy to be of normal physical appearance. He sits quietly on his chair, completely avoiding your gaze and starts to fidget with the paper weight on your desk. He continues to do this in spite of several stem reprimands from his mother.

You are unable to draw him into a conversation. He ignores your request to draw a man using your pen and paper.

2.1 Give three diagnostic hypotheses that you would consider at this stage to account for his poor school performance. (30 marks)

2.2 Give two reasons in favour of each diagnostic hypothesis. (30 marks)

2.3 Name three specific items of information that you would like to get from his class teacher. (20 marks)

2.4 Mention two investigations/assessments that you would consider doing as a part of the management plan. (20 marks)

3. A thirteen-year-old girl presented to a Psychiatrist with progressive deterioration in school work and abnormal behaviour of a few months duration. She had delusions and hallucinations and the Psychiatrist prescribed chlorpromazine and benzhexol for a period of four weeks. Her symptoms did not subside with this treatment and she was referred to a Paediatrician. She gives a past history of several admissions for wheezing from the age of 4 years but has not had any admissions during the last 2 years. She has been admitted once for gastroenteritis at the age of 2 years. She carries a diagnosis card for an attack of hepatitis at the age of 8 years with a relapse 6 months later. She has no history of fits.

At present she has no cough or wheeze and the bowel movements are regular. Her elder brother died at the age of 20 years in a psychiatric asylum. No other details about his illness are known. She has another brother aged 7 years who is well.

On examination she was drowsy with mild icterus. Her speech was slow and slurred. She had a mild tremor of her fingers. Respiratory and cardiovascular systems were normal. The liver was palpable 3 cms below the costal margin and there were no other palpable lumps. The optic fundi were normal. Initial investigations showed moderately elevated transaminases and a mildly elevated serum bilirubin.

3.1	What is the most likely diagnosis?	(20 marks)
3.2	Give reasons for this diagnosis	(20 marks)
3.3	What other possible diagnosis/es would you consider	(15 marks)
3.4	Mention one key question you would ask in the history	(05 marks)
3.5	Enumerate 4 tests to confirm the diagnosis	(20 marks)
3.6	Outline the management of this girl	(10 marks)
3.7	What other step/s would you take	(10 marks)

4. A twelve year old boy who had been recently investigated for obesity is brought to your clinic with a history of frequent headaches and excessive sleepiness at school. The headaches are not associated with an aura or vomiting. His vision had been assessed recently and found to be normal. He had been quite good in his school work till recently when his teacher found him to be sleepy especially in the morning. There is no family history of migraine.

On examination he is grossly obese. BMI = 30. weight for age well above the 9^{th} centile. Height for age on the 90^{th} centile. Triceps skin fold> 95^{th} centile. No dysmorphic features. Genitalia embedded in the supra pubic fat and appear small. BP 120/80 mmHg. CNS - no focal signs. Disc margins are blurred bilaterally. Tonsils are enlarged. He has a nasal voice.

Investigations done recently include,

Bone age = 13 years
TSH and T4 within normal limits
Serum Na, K, Ca, P04 within normal limits
8.00 a.m. Cortisol following a single dose of dexamathasone
at 12 midnight is normal

4.1 What is his primary diagnosis? (20 marks)

4.2 Give 3 reasons in support of this diagnosis (30 marks)

4.3 Name 3 causes of obesity that can be excluded on the basis of available data (15 marks)

4.4 What is the most likely cause of his headaches? (15 marks)

4.5 What is likely reason for his excessive sleepiness? (15 marks)

4.6 What specific procedure may help to alleviate this symptom in this boy? (05 marks)

5. A 10 year old boy presented with frequent attacks of fever during the last 18 months. He had been treated by a GP with several courses of antibiotics. He has been seen by an Orthopaedic Surgeon on 3 occasions for joint pains which were attributed to "growing pains". He has also been treated by the GP for a painful red eye (cannot remember which side). He gives no history of wheezing or atopy. He has missed many days at school due to these illness episodes and is now reluctant to attend school due to peer and teacher ridicule. He has also had frequent episodes of abdominal cramp and loose stools which had been treated by the GP with several courses of metronidazole and nalidixic acid.

There is no history of consanguinity. His father had recurrent episodes of asthma and the grandfather suffers from chronic "arthritis". On examination height and weight are both below the 3 rd centile. Sexual maturation - Tanner stage 1. He is moderately pale. He has He has no jaundice or oedema. Respiratory and cardiovascular systems are clinically normal. The liver is palpable 2 cms below the costal margin. There is tenderness in the lower abdomen. Right knee is mildly swollen.

ESR - 60 ml first hour. SGPT 82 unit /L (5 - 45 units/L)
SGOT 60 units/L (5 - 45 units/L)
Serum Zinc 5 umol/L (9.8 - 18.1 umol/L)

5.1 What is the most likely diagnosis? (30 marks)

5.2 Give reasons for your diagnosis (20 marks)

5.3 Mention one other possibility (10 marks)

5.4 Give three investigations with expected findings which will confirm your diagnosis (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2002

Date: 15th January, 2002 Time: 1.30 p.m. - 04.30 p.m.

PAPER I

STRUCTURED SEEAY QUESTIONS

Answer All questions.
Answer each question in a Separate book.

1.

1.1 What are the factors contributing to the re-emergence of Tuberculosis as a major childhood health problem worldwide? (40 marks)

1.2 What strategies are necessary to be implemented in a country that is Confronted with a rising mortality rate due to this disease? (30 marks)

1.3 What are the arguments for and against the policy of single lifetime BCG vaccination of neonates at birth? (30 marks)

2.

2.1 What are the causes of anaemia in a neonate? (40 marks)

2.2 What nutritional deficiencies can occur in premature babies.(30 marks)

2.3 How and when do you replace these factors in a baby born at 28 weeks of gestation? (30 marks)

3.

3.1 What are the factors that are taken into consideration in determining the choice of an antibiotic? (30 marks)

3.2 What two different antibiotic combinations/antibiotics would you consider as best for,

a) a previously well 6 yr. old child with suspected haematogenous pyogenic arthritis
b) a preterm baby suspected of sepsis in the first 36 hrs: of age

c) a preterm baby suspected of meningitis at 72 hrs. of age
d) a child with Chloremphenicol resistant Typhoid fever
e) A 5 year old child with Mycoplasma pneumonia
f) A 7 yr old child with Typhus (30 marks)

3.3 Using the principles outlined by you in (a) justify **the final** choice of antibiotic combination/antibiotic you would use for each one of the conditions mentioned in 3.2. (40 marks)

4.

4.1 List the causes of stridor encountered in paediatric practice during
a) infancy
b) pre-school age
c) school age (20 marks)

4.2

4.2.1 What is the most likely cause of progressive stridor of acute onset in a previously well 2 yr. old child. What is the aetiological agent. (20 marks)

4.2.2 What are the characteristic features that would help in the diagnosis? (15 marks)

4.2.3 What are the 3 emergency measures you would take in the management of this child? (15 marks)

4.2.4 Outline the steps of management of this patient if you encounter him in a peripheral hospital with only primary health care facilities. (30 marks)

5.

5.1 List the blood components used in paediatric practice with a brief note on the characteristics, therapeutic constituents and indications for each component. (40 marks)

5.2 What infections are screened to make blood products safer for transfusion? (30 marks)

5.3 What are the non infectious complications of transfusions. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 2002

Date: 16th January, 2002 Time: 9.30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Please Answer All questions.
Answer each question in a Separate book.

1. A 12 year old child is admitted with a history of pain below the right knee of 10 days duration. He had been quite well prior to this illness and is the national age group record holder for the high jump. There is no swelling of the right knee joint. There are no symptoms referable to the other knee or any other joint. There are no skin rashes, pallor or lymphadenepathy. The cardiovascular system. the respiratory system and the abdomen are entirely normal.

   1.1 List 5 features in the history that would help in arriving at a diagnosis. (30 marks)

   1.2 Enumerate 3 physical findings that would be useful in making a diagnosis (30 marks)

   1.3 List 5 investigations that would help in the diagnosis. (30 marks)

   1.4 List a differential diagnosis (30 marks)

2. A 3 year old previously healthy boy of very wealthy parents was sent to hospital from the airport with a history of fever, vomiting and dyspnoea of 4 hours duration. He had come to Sri Lanka on holiday from the UK that morning in his father's private jet and had drunk 5 glasses of lemonade during the early part of the flight. With the onset of fever he had complained of thirst and had taken a further unknown amount of a carbonated drink. He was found to be dyspnoeic, centrally cyanosed with diminished breath sounds on the left side of the chest. An in-ward CXR was interpreted as having a pneumothorax and a pleural puncture in the 6th intercostal space in the mid-axillary line yielded a little air and yellowish fluid but a repeat CXR did not show any re-expansion of the lung. A second pleural tap in the second intercostals space in the mid clavicular line provided some greenish yellow fluid. Another CXR showed no significant change and the lung had not re-expanded.

2.1 What is the most likely diagnosis? (20 marks)

2.2 What is the most likely explanation for the rapid development of problems' in this previously healthy child? (20 marks)

2.3 Give two urgent investigations that would confirm the diagnosis. (20 marks)

2.4 Enumerate two other related problems that are associated with this condition (20 marks)

2.5 If the parents wish to take the chi ld back lO {J K for further urgent management. What specific advice would you give them regarding the flight. (20 marks)

3. A 9 year old boy presented with a 12 day history of fever. He had developed loose stools 4 days ago but this settled after 2 days. On the day prior to presentation, he has had black stools. There was no history of abdominal pain. He was afebrile, toxic, pale and icteric. There was gum bleeding and epistaxis. Abdomen was soft with a liver palpable 4 cm below the costal margin and splenomegaly of 2 cm. He had a Hb of 6.4 g/dl, WBC 1.6 x 10^9 /litre, platelets 17 x 10^9/1itre.
A specific diagnosis was made and treated. He became afebrile on the 7^{th} day of treatment.

3.1 Give 5 possible diagnoses. (40 marks)

3.2 Name 8 investigations that would help in establishing a specific diagnosis (40 marks)

3.3 Critically evaluate how one specific invasive special examination would help (20 marks)

4. An 18 month old child was admitted with difficulty in breathing. He gives a past history of frequent episodes of heart failure during respiratory infections. He had macrocephaly with short limbs and had been diagnosed as a case of achondroplasia at the age of 3 months. He has also had some neurodevelopmental delay. On admission this time he was tachypnoeic and centrally cyanosed. It was observed that during sleep he had periods of apnoea lasting over 10 seconds. CXR showed cardiomegaly and an enlarged main pulmonary artery. ECG showed right ventricular hypertrophy. The 2 dimensional echocardiogram did not reveal any shunts. Blood gas analysis revealed persistent hypoxaemia and this, measured

through an indwelling arterial line, worsened during sleep. The worsening persisted despite maintenance of a patent airway through a naso-tracheal tube.

4.1 Mention the most likely cause for his hypoxaemia. (20 marks)

4.2 What is the reason for the episodes of cardiac failure? (20 marks)

4.3 Name 3 investigations that would specifically help in the management of this patient. (15 marks)

4.4 Briefly describe two likely causes for the neurological problems. (25 marks)

4.5 Name two measures that would be useful in the long-term management of this child. (20 marks)

5. 26 day old baby is admitted with breathing problems. He is pale, tachypnoeic and has cold peripheries. There is considerable grunting. The mucous membranes are pink, there is no polycythaemia and the capillary refilling takes 6 seconds. The heart rate is
160/minute, the liver is palpable 3 cms below the costal margin in the mid-clavicular line. The spleen is not palpable and there are no masses in the abdomen.

5.1 Name 5 features in the history that would be useful in arriving at a diagnosis (25 marks)

5.2 List 5 physical signs that should be specifically looked *for* in arriving at a diagnosis. (25 marks)

5.3 Enumerate 5 possible aetiological causes for this presentation. (20 marks)

5.4 List 5 investigations that would help specifically to arrive at a definitive diagnosis (15 marks)

5.5 List 3 drugs that could be used in the emergency management of this baby (15 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
AUGUST, 2002

Date: 26th August, 2002 Time: 1.30 p.m. - 4.30 p.m.

Please Answer All questions.
Answer each question in a Separate book.

PAPER I

STRUCTURED ESSAY QUESTIONS

Q 1.

1. 1. a. Briefly discuss the importance of maternal serum screening for Down syndrome in a population. (15 marks)
1. 1. b. List 04 biochemical markers 'used in the 1 and 2nd trimester screening giving the expected result in a fetus with Down Syndrome. (20 marks)

1. 2. a. Discuss the fetal and neonatal complications that would be expected when the mother is on anti epileptic drugs during pregnancy. (20 marks)
1. 2. b. Briefly discuss how to minimize the complications. (15 marks)

1. 3. a. What are the toxic effects of oxygen in the neonate? (15 marks)
1. 3. b. Discuss the effects of oxygen on the neonatal circulation. (15 marks)

Q 2.

2.1 What is evidence based medicine? (20 marks)
2.2 How is the evidence for good medical practice obtained? (20 marks)
2.3 Give a brief description of a paediatric practice which is evidence based. (20 marks)
2.4 Give a brief description of a paediatric practice which is not Evidence based. (20 marks)
2.5 How could the practice you described in (2.4) be improved ? (20 marks)

Q 3 A 10 day old neonate is admitted with ambiguous genitalia consisting of a 1 cm long phallus and scrotolabial folds.

3.1 Briefly discuss 4 physical signs that will help to determine the probable sex of this baby. (40 marks)
The karvotype is 46 XX.

3.2 Give 2 likely diagnoses. (I 0 marks)

3.3 Briefly describe the use of clinical features and biochemical investigations to determine adequacy of treatment in the long term management of the most likely diagnosis. (50 marks)

Q 4

4.1 Briefly discuss the causes of renal failure in the newborn. (30 marks)

4.2 Discuss briefly the clinically relevant endocrine changes seen in chronic renal failure. (25 marks)

5.4 Explain why peptic ulcer disease is common in patients with chronic renal failure. (15 marks)

5.5 How is the response to therapy in renal osteodystrophy assessed? (30 marks)

Q 5

5.1 List the complications you may encounter in children with near drowning. (30 marks)

5.2 Briefly discuss the pathogenesis of pulmonary complications (30 marks)

5.3 Outline the management of a child with near drowning. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
AUGUST, 2002

Date: 27th August, 2002 Time: 9.30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Please Answer All questions.
Answer each question in a Separate book.

1 A 9 month old baby is brought for consultation as the parents noticed that the baby was gaining weight excessively since 4 months of age. The baby had a normal vaginal delivery with a birth weight of 3 kgms. He was exclusively breast fed for 4 months. There was no consanguinity.

On examination baby's weight was at the 97th percentile and the length was at the 50th percentile, he had a round face with no dysmorphic features in the face. There was no umbilical hernia. His fingers were short and stubby but no polydactyly. There was no evidence of precocious sexual development.

He had good head control and sits with support. He could grasp objects with the palm. Socially very friendly and alert, makes noises when spoken to but no babbling. On the right heel there was a hard mass of 1 cm x 2 cm. Blood pressure was normal.

Investigations revealed a serum TSH of 15 (normal range 2-5 mU/L), X-ray heel showed a subcutaneous calcification

a). Mention three (3) other clinical signs that you would look for. (30 marks)
b). What other relevant investigations are indicated? (30 marks)
c). What is the diagnosis? (30 marks)
d). List two (2) test that would confirm the diagnosis. (10 marks)

2. A four year old boy with a history of 3 days fever and loss of appetite was found to be drowsy and disoriented in the early hours of the morning. Apart from paracetamol no other drugs had been given to the child. The aunt who was looking after him rushed the child to hospital. On the way he developed a generalized clonic seizure lasting 10 minutes and was admitted to hospital.

His mother had left the country for foreign employment 9 months earlier leaving the child with the aunt. During this period the child had three episodes of mild fever with cough and cold. During these episodes there had been loss of appetite and lethargy, but had recovered with some home remedies. The aunt also reported that the child was always a poor eater and had not been gaining weight. He was not a very active child. His development was within normal limits.

On examination the child weighed 12 kg, was semi-conscious, no neck stiffness or Kernig's sign. There was no central cyanosis, peripheries were cold and there was evidence of mild dehydration. The pulse rate was 120/minute, low volume, and the systolic B.P. was 60 mm of Hg. The cardiovascular system was otherwise clinically normal. He was mildly dyspnoeic with good air entry on both sides. The liver was just palpable under the costal margin and was riot tender. The spleen was not palpable. There were no obvious focal neurological signs.

a). List five (5) additional features in the history that would help in evaluating this patient. (20 marks)

b). Mention five (5) urgent laboratory investigations that would help in the initial assessment and also indicate the expected results of these investigations. (15 marks)

c). What emergency treatment would you carry out in this child? (40 marks)

d). What is the most likely differential diagnosis? (25 marks)

3. A 9 year old girl from a remote hamlet in the Kalutara District was admitted with a painful swelling in her left deltoid 24 hours after the administration of J.E., booster. No such problem has been encountered with the 3 doses, the last of which was administered 3 years ago. The aunt who accompanied the patient said that she has been looking after this girl ever since her mother left for overseas employment nearly 2 years ago. According to the aunt the girl has been apparently healthy except for some minor illnesses for which treatment was always sought from her G.P, in their locality. She described the girl as friendly and obliging and had helped her in all her household chores and had also looked after her two children.

However. on close questioning she said that the girl had been rather moody, inattentive, clumsy and had problems with her School work since of late and also went on to describe something suggestive of a seizure episode about two months ago. which has been casually passed as being possessed by the devil or a "thanikan dhose". She had been on dapsone for a period of 6 weeks prescribed by her G.P. upon routine detection of a depigmented patch on her forearm, when she called on him to take treatment for some mouth ulcers. However, a consultant dermatologist who saw her at a mobile clinic organized by a N.G.O. had discontinued dapsone just 2 weeks prior to admission, as the lesion was not suggestive of leprosy.

On examination, both her height and weight were between the 10^{th} and 25^{th} centiles, looked slightly pale, anicteric, no significant lymphadenopathy, a tender lump 2.5 x 2cm was noticed in the left deltoid, the liver was palpable 2 cm below the right costal margin and the rest of the systemic examination was unremarkable. Her HB, was 10.2 g/dl, total leucocyte count 5200, N=42, L=54, E=4 and had a reticulocyte count of 4.2% and the ESR was 84 mm in the 15t hour.

a). What is the most likely cause of the deltoid lump? (5 marks)

b). Give three (3) possible reasons for the high reticulocyte count (15 marks)

c). Give-three (3) possible reasons for the recent deterioration of her school work. (15 marks)

d). What is the most likely diagnosis? (40 marks)

e) List seven (7) investigations that would help you in arriving at the most Likely diagnosis and its management. (25 marks)

4. A three week old baby boy is brought to casualty because he has not regained his birth weight. He has vomited twice in his life. had no diarrhoea, but his napkins, continue to be wet with urine. He is reluctant to fed. He is formula fed. The pregnancy and delivery were normal and at full term. A cousin was a cot-death few years ago.

His urea and electrolyte concentrations are :

Sodium	-	159 mmol/1 (normal range 135-145)
Chloride	-	115 mm0111 (normal range 100-106)
Potassium	-	4.2 mm0111 (normal range 3.0 - 4.5)
Bicarbonate	-	24 mmol/1 (normal range 22-27)
Urea	-	8.2 mmol / 1 (normal range3.0 – 6.5)
Creatinine	-	65 micromols/l (normal range 30-50)

Renal tract ultra sound is normal.

a). Give three(3) possible diagnosis, one of a life long condition and the other two temporary. (25 marks)

b). Why has the plasma sodium become elevated. (15 marks)

c) Outline the management of the life long condition. (15 narks)

d). What are the pharr11acological properties and possible adverse effects of drug therapy. (15 marks)

e). What are the short to medium term medical risks this child faces. (15 marks)

f). What long term structural problem may complicate the case and how might it be prevented. (15 marks)

5. An eleven month old baby was transferred to your unit for specialized management. She had been admitted 7 days prior to transfer with a history of severe diarrhoea. She needed intravenous rehydration and she was also treated with an intravenous antibiotic. Two days after admission she became pale and needed to be transfused. After that she became oliguric and the blood urea rose progressively to 36m.mols/ litre.

On examination she was not pale and had mild ankle oedema. The respiratory rate was 56/min and the lungs were clear on examination. The abdomen was normal and the bladder was not palpable. She was conscious, alert and was feeding well. Over the last 24 hours she had passed two semi formed stools. A urinary catheter yielded no urine. A decision was made to commence peritoneal dialysis.

a). Name three(3) conditions that could account for the renal problems. (15 marks)

b). What broad category of fluid would you use to commence peritoneal dialysis? (05 marks)

c). Over the next 48 hours there was complete anuria and the blood urea rose to 44 m.mols/ litre. The recordings of the dialysis chart showed a positive balance of 1240 ml. retained by the child. What inference would you make of this situation and what action would you take? (20 marks)

d). Two days, later, there was increasing oedema and the anuria persisted. The child was not dyspnoeic and the blood urea had come down to 20m.mols/1. The balance in the dialysis chart showed the positive balance to be only 100ml
What investigation would be useful at this stage? (10 marks)

e). A day later, the serum potassium was 2.2 m.mols/litre.
What action would you take in this situation? (10 marks)

f). Five days after starting peritoneal dialysis, there was some urine draining from the catheter and over the next three days this gradually increased. On the next day the urinary catheter came out and .the mother refused permission to reinsert the catheter.
Name two (2) bedside observations that would be useful over the next 24 hours that would help you in your assessment of progress.
(15 marks)

g). 12 days after starting peritoneal dialysis, the child appeared to be quite dehydrated. The blood urea was 12 m.mols/ litre. She was passing urine well.
Name three (3) investigations that would be useful at this stage.
(20 marks)

h). What is the immediate prognosis for this child? (05 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
MARCH 2003

Date: 24th March, 2003 Time: 1.30 p.m. - 04.30 p.m.

PAPER I

STRUCTURED SEEAY QUESTIONS

Answer All questions.
Answer each question in a Separate book.

Q 1.

1.1.	Define "gastro oesophageal reflux"	(10 marks)
1.2.	Describe the pathophysiological basis of gastro-oesophageal reflux disease in infancy	(20 marks)
1.3.	How would you confirm the diagnosis of gastro-oesophageal reflux disease in infancy	(30 marks)
1.4.	Outline the treatment of gastro-oesophageal reflux disease in infancy	(20 marks)
1.5.	What are the complications of gastro-oesophageal reflux	(20 marks)

Q 2.

2.1.	What are the possible outcomes of poor school performances in an apparently normal child.	(30 marks)
2.2	Briefly discuss the medical evaluation of a child with poor school performance.	(70 marks)

Q3.

Enumerate the ways in which you as a Paediatrician in a General/Base Hospital in Sri Lanka could contribute to/participate in the following public health programmes.

3.1. Growth Monitoring (35 marks)

3.2. Child Protection (35 marks)

3.3. Polio Eradication (30 marks)

Q4.

4.1. Mention 4 common causes for a child with a history of polyuria. (20 marks)

4.2. How would you establish the presence of polyuria? (10 marks)

4.3. How would you investigate this child ? (40 marks)

4.4. Outline the management strategies for 2 common causes. (30 marks)

Q5.

5.1. List 10 causes of haematuria in a 9 year old boy (20 marks)

5.2. Briefly discuss the investigations that will help in the differential diagnosis. (30 marks)

5.3. Mention 4 conditions where renal biopsy is helpful in making a diagnosis. (20 marks)

5.4. Outline the management of one of the conditions mentioned in 5.3. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
MARCH 2003

Date: 25th March, 2003 Time: 9.30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Answer All questions.
Answer each question in a Separate book.

1. A 9-year-old boy was admitted to a surgical ward with a history of a fall whilst body following this fall. There had been no loss of consciousness, but he had complained of headache. There was no vomiting. He was observed in the surgical ward for a head injury although there were no external signs of trauma to the head. He had been in good health prior to this illness and had not been investigated or admitted to a hospital. On direct questioning the mother recalled that he complained of headaches on and off for a period of one year. Whilst in hospital, on the following day, he complained of a severe headache and vomited a few times. Soon after, he developed a right-sided partial seizure with loss of consciousness lasting for about 5 minutes. When he regained consciousness his condition seemed to have worsened.

   After this incident, examination revealed that this boy was afebrile but had mild neck stiffness. He was fully conscious, rational and had a right-sided (face, arm, and leg) weakness with brisk reflexes and extensor plantar reflex on the same side. Optic discs did not show papilloedema. There was no clubbing or cyanosis, the pulse was regular 90 per minute and blood pressure was 90/60 mmHg. On auscultation the heart sounds were normal and no murmurs were audible. Examination of the respiratory system and abdomen were normal.

   You have been called to see this child in the surgical ward.

   (a) What additional infonnation in the history would help in solving this clinical problem? (20 marks)

   (b) List five other physical signs that should be elicited. Explain how these would help in evaluating this patient. (25 marks)

(c) Discuss briefly the disease processes that could cause this clinical picture and indicate the most likely diagnosis, giving reasons. (40 marks)

(d) What investigation would be most helpful in managing this child? Explain why you selected this investigation and mention the anticipated findings. (15 marks)

2. A male infant is born at term to a 25 year old mother who has had a normal pregnancy with ante-natal ultrasound examinations at 16 and 34 weeks revealing no fetal abnormality. He is severely asphyxiated at birth and is resuscitated in 20 minutes. Birth weight is 2.9Kg. The baby is admitted to a special care baby unit for further observation and care; and is noted to have bile stained nasogastric aspirate and abdominal distension on day 2. He is managed with intravenous fluid, intravenous metronidazole and cefotaxime. The following day he becomes more lethargic and pale with cool peripheries and the temperature chart shows subnormal recordings.

On day 4 bilateral intra abdominal masses are felt.

(a) Discuss in order of priority, the underlying cause/s that may have led to the condition that you think is most likely to be present in this neonate. (30 marks)

(b) Describe the pathogenesis of the clinical features that you would expect to see in this neonate. (30 marks)

(c) Name the investigations that would assist in the management. (20 marks)

(d) What further complications would you expect in this neonate. (20 marks)

3. A twelve year old boy is admitted with a history of abnormal behaviour and deteriorating school performance of 6 months duration. There is no significant I family history and he has 3 siblings who are quite well. The parents are separated and he lives with his mother and the grandmother.

It was noted that during the examination, he would suddenly grimace and have jerky movements of the limbs. The cranial nerves and the optic fundi were I normal. On testing coordination, movements were slow but there were no I tremors. Limb movements were full but the tone was difficult to assess. All deep tendon reflexes were brisk and there were bilateral extensor plantar responses. The gait was jerky and unsteady with toe walking. He was not able to perform the Romberg test. The entire neurological examination was hampered by the patient's lack of concentration.

Other systems examination was normal.

(a) Mention four (4) important conditions that you would consider in your differential diagnosis. (30 marks)

(b) What other features in the history would help in arriving at a diagnosis? (30 marks)

(c) Mention investigations you would arrange for this child giving reasons. (40 marks)

4. A 6 year old girl presents to the hospital with vaginal bleeding which the mother has noticed for the last three days. The mother stated that the child had been well except that she had a similar episode of vaginal bleeding a month back for which no medical aid was sought since the bleeding resolved spontaneously in five days. No history of trauma or sexual abuse.

On examination the child was not ill looking.
Weight at 50th centile, Height at 3rd centile.
BP - 100/70, Breast development - Tanner stage 2, No other signs of puberty.
Examination of genitalia - normal with no evidence of infection or sexual abuse.
Rest of systemic examination - Normal

(a) What other points in the history would you like to elucidate? (20 marks)

(b) What important points in the examination have been missed? (20 marks)

(c) With this information, what is the most probable diagnosis? (30 marks)

(d) What investigations would you carry out to confirm the diagnosis? (15 marks)

(e) How would you treat the vaginal bleeding? (15 marks)

5. An 8 year old boy presented with a history of fever for 3 days and difficulty in walking. He was apparently well 5 days back when he developed fever without chills or rigors. Same day he complained of swelling of both knee joints and difficulty in walking. There is a positive family history of rheumatoid arthritis and diabetes mellitus.

On examination his temperature is 38.2°C. Both knee joints are tender and swollen (left more than the right) with restricted movements. There is bilateral conjunctivitis and mouth ulcers. A soft systolic murmur is heard over the

precordium. The rest of the examination was normal.

Investigations revealed

Hb 11.1gldl, WBC/DC 16,500, N - 81, L - 18, E - 01
ESR 120mm in first hour
Rheumatoid factor - negative
VDRL - negative, ASOT - 400 IU/ml

20 ml of clear fluid was aspirated from the left knee joint with no organisms identified on smear or culture.

(a) What other questions would you ask to arrive at a diagnosis? (40 marks)

(b) What is the most likely diagnosis? (30 marks)

(c) List three useful investigations giving reasons. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE

UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION

JANUARY 2004

Date: 19th January, 2004 Time:1 .30 p.m. - 4.30 p.m.

PAPER I

STRUCTURED SEEAY QUESTIONS

Answer All questions.
Answer each question in a Separate book.

Q 1

a) How would you evaluate a neonate with anaemia to identify the aetiology? (50 marks)

b) Describe the pathophysiology of anaemia of prematurity. (20 marks)

c) How would you treat anaemia of prematurity ? (30 marks)

Q 2

a) List three (3) sources of iatrogenic arterial injuries in the post neonatal infants and pre school children. (15 marks)

b) What are the risk factors for complications of arterial injuries? (10 marks)

c) What are the consequences of arterial injuries? (25 marks)

d) What are the signs and symptoms which would help in early recognition of consequences of arterial injuries? (20 marks)

e) Outline the principles of management of arterial injuries. (30 marks)

Q3.

a) What are the aetiological factors of systemic hypertension in children? (20 marks)

b) Discuss how you would evaluate a child with systemic hypertension (40 marks)

c) How would you manage an acute hypertensive crisis in a child? (40 marks)

Q 4.

a) What is the importance of iodine deficiency in global child health? (20 marks)

b) What are the four (4) most important indicators to assess the iodine deficiency disorders in a population? (20 marks)

c) List the important causes of iodine deficiency in infancy and childhood. (20 marks)

d) Discuss the preventive measures and their limitations Adopted for iodine deficiency disorders in Sri Lanka. (40 marks)

Q 5 Discuss the ethical issues involved in,

a) The conduct of a controlled clinical trial comparing two regimens of prednisolone for the first attack of nephrotic syndrome. (50 marks)

b) The management of a ventilated newborn with a complex uncorrectable cyanotic heart disease. (50 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2004

Date: 20th January, 2004 Time: 9. 00 a.m. - 12.00 noon

PAPER II

CASE HISTORIES

Answer All questions.
Answer each question in a Separate book.

1. A one month old boy was referred to your institution for the management of bilateral hydronephrosis. He was the first child of non-consanguineous parents, and was antenatally detected to have bilateral hydronephrosis. Post natal investigations have proven that he has bilateral severe vesico ureteric junction obstruction. He was admitted for poor feeding and lethargy 2 days prior to the scheduled surgery. The urine microscopy and culture results were as follows.

WBC	-	> 1 00 cells/high power field
RBC	-	3 cells/ high power field
Epithelial cells		0 cells/ high power field

No casts crystals or formed elements seen

Culture - A pure growth of Enterobacter cloacae > 10^5 / c. mm Resistant to ampicillin, unasyn, ceftriaxone, ceftazidime, cephalexin Nitrofurantion, aztreonam and piperacillin. Sensitive to gentamicin, amikacin, cotrimoxazole, ciprofloxacin, meropenam, imipenam and netilmycin

Results of biochemical investigations done on the blood were as follows:

Urea	8.0	mmol/L (40 - 70)
Sodium	11.7	mmol/L (135 - 15)
Potassium	3.0	mmol/L (3.5 - 4.5)
Chloride	95	mmol/L (95 - 108)
Bicarbonate	8	mmol/L (24 - 28)
Creatinine	82	umol/L(25 - 50)
Glucose	6.6	mmol/L (45 -70)
Calcium	2.03	mmol/L (220-2 60)
Phosphate	1.83	mmol/L (080 - 1.65)

He was given intravenous fluids and treated with intravenous antibiotics Four days later, he underwent surgery where bilateral pyelostomies were created, and was transferred to the paediatric intensive care unit (PICD) post operative!:;

On arrival in the PICU, it was noticed that the baby was cyanosed. The vital signs were as follows,

Temperature	35.4 C
Heart rate	160/min
Respiratory rate	20/min
Oxygen saturation(SaOz)	85%
Blood pressure	70/35 mm Hg

Arterial blood gas was performed and the results were as follows,

pH	7.28
POz	56 mm Hg
PCOz	70 mm Hg
HCO3	28 mmol/L
Base excess	1 mmol/L
SaOz	86%

A chest x ray showed collapse of the right upper lobe.

Post operatively, there was marked diuresis and despite active correction of his fluid deficit, 12 hours later, the child developed an episode of a generalized tonic clonic seizure.

a. Identify the electrolyte and acid base abnormalities that occurred in this patient prior to surgery. (10 marks)

b. Outline briefly your management of these acid base and electrolyte abnormalities. (10 marks)

c. Discuss your choice of antibiotics for this patient. (20 marks)

d. On admission to the PICU after surgery what were the possible causes for his unstable condition. (20 marks)

e. Outline your management for each of these causes. (20 marks)

f. What are the possible causes of the seizures? (10 marks)

g. Outline your management of the seizures. (10 marks)

2. A two year old boy presents with swelling of the abdomen, limbs and face, which developed over the last two days. There was no history of previous episodes of swelling. He had complained of abdominal pain in the past 6 hours.

He had a past history of infantile eczema and had an episode of diarrhoea lasting 7 days, a month earlier. He had been otherwise an active child with no history of fever or loss of appetite.

There was a family history of asthma affecting his father and elder brother. His mother was being treated for hypertension.

a. What is the differential diagnosis and what features in the clinical examination would help you to arrive at a diagnosis? (30 marks)

The following results were available 6 hours later:

Hb	15 g/dl	Urea	10.2 mmol/L	(2.5 - 6.6)
PCV	45%	Na	136	
WBC	11 x 10^9 /L	K	4.8	
	(N=60%; L40%)	HC03	18 mmol/L	(20-26)
ESR	6 mm/hour	ALT	33 u/L	(15-40)
CRP	5mgIL (normal <6)	Total proteins	40g/L	
		Albumin	12 g/L	

Urine full report - Albumin 2 ++
RBC - 60 /mm3
WBC - 5 /mm3
Granular casts +

b. What early complications may arise in this patient. (10 marks)

c. Describe your management in the first 12 hours of the admission. (30 marks)

d. Discuss the long-term prognosis and management of this patient. (30 marks)

3. 4 year old Surani was admitted to the paediatric surgical ward. She is a naughty little girl who had been playing with her equally naughty brothers aged 5 and 3 years when she complained of pain in her lower abdomen for which she was taken to hospital. Apart from being a very active, playful girl, often getting into trouble with her two brothers, she was a healthy child.

She was born at term and weighed 3 kg and was discharged the following day after being examined by the Paediatric House Officer.

After examination at the hospital the mother was informed that Surani had an inguinal hernia which contained a firm 'mass' and would need surgery to repair the defect and identify the 'mass'. Apart from the hernia, rest of the examination was normal.

The ultra sound scan done prior to surgery confirmed the 'mass' in the inguinal sac. The rest of the study was normal but a request had been made for a repeat scan in 6 months as the uterus and associated structures could not be identified.

The inguinal hernia was repaired and the resected mass was sent for biopsy.

You get a call from the surgical registrar who has just received the histology report and wants your advice as there is 'something unusual' in the report.

a) Describe the likely histology report that has caused concern to the surgical registrar. (20 marks)

b) What is the most likely diagnosis of Surani' s condition? (10 marks)

c) Give the most useful investigation (that can be done in Sri Lanka) to support your diagnosis and give the expected result. (20 marks)

d) Briefly discuss the important aspects in the long-term management of this patient. (50 marks)

4. A seven year old boy presented with a history of recurrent abdominal pain frequency of micturition, dysuria and recurrent haematuria of six months duration These symptoms were not associated with fever. He was treated with several antibiotics in the past. The urine cultures done prior to antibiotic therapy had beer repeatedly negative. Therapy had not relieved the symptoms.

He is a product of a non-consanguineous parents. The antenatal and perinatal period was uneventful. Apart form this presenting complaint he had been well in the past and his growth and neurological development has been appropriate for his age. Immunizations were given appropriately. His father too has suffered from recurrent dysuria for which he has not paid much attention. The rest of the family (mother and two elder siblings) were healthy.

On examination he was a well looking, active child with weight and height in the: 50th centile. Blood pressure 90/60 mmHg. Cardiovascular, respiratory, abdominal. nervous system and genital examination did not reveal any abnormality.

Following were the results of the investigations done.

Urine FR
- Proteins +
- Red cells 50-60/mm3
- Pus cells 10-20/mm3
- No casts, no organisms
- Few calcium oxalate crystals +

Urine culture x 3	- No growth
Serum creatinine	- 52 umollL(normal 20-80)
Serum sodium	- 137 mmollL
Serum potassium	- 4.5 mmollL
Hb	- 12g/dl
WBC/DC	- 10 x 10 /L N 60%, L 40%
ESR	- 10 mm 1st hr
Serum C3 and C4	- Normal
Ultra sound abdomen	- Normal
Serum calcium	- 1.1 umol/L (normal 1 - 1.3)

a. Mention four investigations that will be most helpful in arriving at a diagnosis? (40 marks)

b What is the most likely diagnosis ? (20 marks)

c. Outline the management. (40 marks)

5. A previously well 2 year old child was admitted to General Hospital (in Sri Lanka) with fever of 3 days duration. The admitting officer noted that he was ill out of proportion to the temperature, and that he had a generalized erythematous rash. He had no meningeal signs and the rest of the systemic examination was normal. Blood culture taken on admission revealed no growth. The child died on the 6th day of the illness.

a. What were the mot likely diagnoses you could have made based on the above information. (30 marks)

During the course of stay in the hospital registrar recorded a purulent conjunctivitis, oral ulcers. and blistering of the skin lesions. The Consultant noticed positive Nikolsky's sign.

b. With the additional information what would have been the most likely diagnosis? (20 marks)

c. Describe the procedure, observation and interpretation of the Nikolsky's sign. (20 marks)

d. Out line the principles of management of the child during the period of his illness. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY, 2004

Date: 26th July, 2004 Time: 1. 30 p.m. - 4.30 p.m.

PAPER I

STRUCTURED ESSAY QUESTIONS

Answer All questions.
Answer each question in a Separate book.

Q 1

1.1 Briefly discuss the methods of preventing congenital infections in the new born. (30 marks)

1.2 Outline briefly the reasons for greater susceptibility of preterm babies to infections. (30 marks)

1.3 List the complications associated with severe neonatal sepsis and briefly discuss the principles of management of these. (40 marks)

Q 2

2.1 What are the indications for parenteral nutrition in infancy? (25 marks)

2.2 Discuss the composition of a parenteral nutrition regimen required for a 10kg infant, including the adjustments necessary for different types of intravenous access. (25 marks)

2.3 List-the possible complications of parenteral nutrition in this infant. (25 marks)

2.4 Discuss the measures required to minimize these complications. (25 marks)

Q 3

3.1 List the causes of chronic headache in a 7 year old child. (20 marks)

3.2 Discuss how you would evaluate such a child. (50 marks)

3.3 Briefly discuss the management of childhood migraine. (30 marks)

Q 4

4.1 Name the factors which influence engraftment and graft rejection in bone marrow transplantation. (30 marks)

4.2 List four (4) complications associated with blood transfusion in a child who has received a bone marrow transplant What precautions will you take to avoid them? (40 marks)

4.3 What are the late complications of bone marrow transplantation? (30 marks)

Q 5

5.1 List five (5) maternal systemic conditions associated with heart disease in the offspring. (20 marks)

5.2 List five (5) indications to perform foetal echocardiography (20 marks)

5.3 Briefly discuss the indications for use, mechanisms of action and precautions to be taken when using the following three (3) drugs in congenital heart disease.

a. ACE inhibitors

b. Prostaglandins

c. Indomethacin (60 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY 2004

Date: 27th July, 2004 Time: 9. 30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Answer All questions.
Answer each question in a Separate book.

1. A term baby girl weighing 2.4 kg was born following an uneventful pregnancy to a primigravida. On routine examination fullness of dorsum of both feet were noted and the baby was discharged home twenty four hours after birth. After being well at home for six days, the baby had suddenly deteriorated and was brought to the paediatric casualty ward with a history of lethargy and refusal of feeds.

   On admission the baby's weight was 2.3kg. She was acyanotic with cold extremities and the respiratory rate was 66 per minute. Lungs were clear. The heart rate was 176 per minute. Liver was palpable 4 cm below the right costal margin.

   The following investigation results were available.

Hb%	- 15 g/dl	
WBC/DC	- 12000 per cu mm.	
	N 30%, L 70%	
Platelet count	- 180,000 per cu mm.	
Arterial blood gas analysis (in air)		
	pH 7.28	(7.35 -7.45)
	P02 87 mmHg	(83 - 108)
	PC02 25 mmHg	(27 - 40)
	HC03 - 20 mmol/L	(21-28)
	BE -6	[(-10) - (-2)]

   C reactive protein < 6mg/dl (up to 6)

1.1 What is the most likely cause for sudden deterioration ? (20 marks)

1.2 What is the most appropriate immediate management.? (25 marks)

1.3

a) What are the underlying clinical conditions? (20 marks)

b) How do you confirm them? (10 marks)

1.4 List the long term complications associated with the conditions mentioned by you in 1.3 (a). (25 marks)

2. A 7 year-old girl complained of severe headache, and blurring of vision for a period of 2 days. She had a history of sore throat and fever about 2 weeks prior to this episode. Physical examination showed the presence of periorbital and ankle oedema. Blood pressure was 130/90 mm Hg. Pulse rate 80 per minute. The jugular venous pressure was elevated to 5 cm. Apex beat was in the 5th left intercostal space outside the mid-clavicular line. There were fine crepitations in both lung bases. Abdominal examination revealed a firm liver 4 cm below the right costal margin. The spleen was just palpable. Shifting dullness was demonstrated. Fundal examination was normal. Laboratory investigations at admission revealed:

Urine RBC 100/hpf, WEC 10/hpf, granular casts present
Phase Contrast microscopic examination urine showed dysmorphic red cells
Urine protein 3+
Hemoglobin 8 g/dL , total white count 3.5x109/L, platelets 90x109/L
Serum urea 20 mmol/L, creatinine 200 umol/L,, sodium 125 mmol/L, chloride 95 mmol/L, bicarbonate 15 mmol/L
Serum complements C3 and C4 decreased

2.1 Mention the most likely diagnosis at admission, giving your reasons. (20 marks)

2.2 List 3 laboratory investigations that will be useful in establishing the diagnosis. (15 marks)

2.3 State your first line management of this child on admission to the ward. (10 marks)

Over the next 3 days, her serum creatinine continued to rise to 500 umol/L, and she became progressively oliguric. She had a generalized seizure on the 4th day after admission, which responded to intravenous diazepam. However she remained confused post-ictally.

2.4 List 5 possible causes of the seizure. List 5 useful investigations to elucidate the cause of the seizure. (30 marks)

2.5 A renal biopsy was performed- on this child. What are the expected findings on light microscopy and immunofluorescence? (10 marks)

2.6 What are your recommendations for treatment of the primary disease in this child? (15 marks)

3. An eight month old boy is transferred from a base hospital to the Lady Ridgeway Hospital with a history of prolonged seizures. He had been admitted to the local hospital with a generalized tonic clonic seizure, which had lasted 20 minutes prior to admission to the local hospital. After admission diazepam and a loading dose of phenobarbitone had been given. The seizures had abated for a short time following this management. However, as he had developed further convulsions he was transferred to LRH for further management. He had been started on intravenous penicillin and cloramphenicol prior to transfer.

There is no history of previous convulsions. He had been born at term weighing 2.5 kg. He had achieved his developmental milestones at the expected ages. The infant is the youngest in the family of four children and his three older brothers are said to be well. The four children live with their parents, and there is no extended family support. The father is a mason who has recently lost his regular job as he was found to be drunk during working hours.

On examination you find a fitting child who has a temperature of 37.50C. He is pale and the anterior fontanelle is full. Some bluish/purplish patches are noted on the back of the chest. There is no lymphadenopathy. His lungs are clear and there is no hepatosplenomagaly. His pulse is 84 per minute and the blood pressure is 100/80 mmHg. His pupils are equal and are reacting sluggishly to light. CNS examination reveals paucity of movements on his left side. Plantar responses are equivocal. Further attempts are made to control the seizures but as they continue he is started on an infusion of midazolam and connected to a ventilator.

His length, weight & occipitofrontal head circumference are all below the 3rd centile.

The following investigation results are obtained:

Blood sugar	- 4.4 mmol/L (3.3-5.5 mmol/L)
Hb	- 9.9 g/dL (11.5-15.5 gldL) .
WBC	- 8.0 X 1Q9fL .
N- 43%, L	- 52%, E - 3%, M -2%

Blood picture - Red cells are normochromic & normocytic. White cells are normal in morphology, platelets normal.
Blood urea - 5 mmol/L (1.8-6.4 mmol/L)
Serum sodium - 128 mmol/L (139-146 mmol/L)
Serum potassium - 4 inmol/L (3.5-6 mmol/L)
Serum calcium - 2.5 mmol/L (2.2-2.7 mmol/L)

3.1 What is the most likely diagnosis? (25 marks)

3.2 List two (2) differential diagnoses. (20 marks)

3.3 Name the most important physical sign you would attempt to elicit that would help you to confirm the most likely diagnosis. (15 marks)

3.4 Outline briefly the management of this child considering the most likely diagnosis. (40 marks)

4. A nine month old infant presented with a three day history of high fever and irritability. He was feeding poorly, crying excessively and two hours before coming to hospital his mother noticed "red spots" on his skin. She said that his condition had worsened despite taking treatment from a general practitioner on the first day of the illness. He was her firstborn and her husband had recently returned home after serving a prison sentence. They live in an overcrowded shanty dwelling in Colombo.

On examination he was very ill, irritable and dehydrated. The temperature was 40Co and there were several red macules on the limbs and a few on the trunk. These lesions were 0.5-1.0 cm in diameter and some had pale centres, He was crying and was difficult to console. The fontanelle was flat but the house officer who examined him was unsure whether it was tense. His mouth was very red and there were three petechiae on his lips. The heart rate was 160 per minute, the peripheries were cool, the pulses were weak and the pulse oxymeter showed a saturation of 85%. There were no cardiac murmurs, lungs were clear and the liver palpable 2cm below the costal margin. He was drowsy, irritable and had normal muscle tone and tendon reflexes. There were no focal neurological signs or enlarged lymph nodes.

After a bolus infusion of 10ml / kg of Hartmann solution his perfusion improved and the heart rate reduced to 13 a per minute.

Hb- 11.2 g/dl, white cell count - 15.7 x 10^9 /L

4.1 Write four conditions you would suspect on admission giving reasons (in order of priority). (40 marks)

During the first night in hospital he developed a generalized seizure. On the following day a definitive clinical diagnosis was possible based on the progression of the dermatological lesions.

4.2 Mention the diagnosis you now think is the most likely and describe its characteristic clinical features. (30 marks)

4.3 Discuss the likely mechanisms for the occurrence of his seizure. (30 marks)

5. A ten year old girl was admitted to the ward with a history of severe headache and vomiting of 6 hours duration. Immediately after admission to the ward she developed a generalised convulsion, which lasted about two minuets. She had no fever. She had been complaining of mild abdominal pain and headache for the last two years and during the past six months these attacks were getting more frequent. Apart from taking treatment from a general practitioner for diarrhoea on two occasions, she has not taken any medication other than paracetamol for the headache. She had lost weight during the last two years. She has a younger brother who is on treatment for steroid sensitive nephrotic syndrome. Other family members are well.

On examination she was found to be plethoric, had no finger clubbing and was not dehydrated. Her weight was 20 kg. (below the 3rd centile) and height was 130 cm (at the 10th centile). She had no neck stiffuess, Kernig sign was negative. She was slightly drowsy but was quite rational and tendon reflexes were normal. Pulse rate was 110/minute, regular and was of normal volume. All peripheral pulses were felt and the blood pressure was 140/110 mmHg at the time of admission. The apex beat was in the 6th intercostal space just lateral to mid clavicular line and there was a grade II ejection systolic murmur in the base of the heart. Liver, spleen and bladder were not palpable.

Initial investigations were as follows.

Haemoglobin - 18.5g/dl, total white count - 8500 per cu. mm.
(N-55%, L-41%, E-4%)
Na-139, K-4.3, CI-I00 mmol/l,
Random blood sugar 4.4 mmol/l, Urine full report - normal.

5.1 Mention two (2) other symptoms and two (2) other signs which will be helpful in arriving at a diagnosis. (20 marks)

5.2 What condition would cause the above clinical picture? (20 marks)

5.3 Briefly explain the cause of polycythemia in this child. (10 marks)

5.4 Discuss the investigations you would perform on this child. (30 marks)

5.5 Briefly describe the treatment of this patient. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 2005

Date: 17th January, 2005 Time: 1. 30 p.m. - 4.30 p.m.

PAPER I

STRUCTURED ESSAY QUESTIONS

Answer All questions.
Answer each question in a Separate book.

Q 1

1.1.	Briefly describe the benefits of breast feeding.	(30 marks)
1.2.	Discuss the nutritional deficiencies that may occur in a baby who is exclusively breast fed up to six months of age.	(20 marks)
1.3.	Briefly discuss the contraindications to breast feeding.	(25 marks)
1.4.	Discuss the suitability of breast milk in the feeding of an extremely preterm baby	(25 marks)

Q 2

2.1.	List five cardiac causes of syncope.	(25 marks)
2.2.	Discuss the clinical features of the conditions listed above	(40 marks)
2.3.	Discuss the principles of management of one of the Conditions mentioned in 2.1.	(35 marks)

Q 3

3.1.	Briefly describe the prevention of Rh iso-immunization.	(40 marks)
3.2.	Discuss the management of the fetus of a Rh sensitised mother.	(30 marks)
3.3.	Briefly describe how bilirubin is metabolised in the fetus.	(30 marks)

Q 4

4.1 List five (05) causes of acute onset ophthalmoplegia in a ten year old girl. (25 marks)

4.2. Give one possible diagnosis if her mother is being treated for an autoimmune disorder. (15 marks)

4.3. List the specific investigations to confirm your diagnosis of the condition given in 4.2 (20 marks)

4.4. Briefly outline the treatment of the condition mentioned in 4.2. (40 marks)

Q 5

5.1.

(a) Explain the mechanisms of the symptoms and signs associated with secondary lactose intolerance. (30 marks)

(b) Describe in detail how you will confirm this condition in a primary care hospital (10 marks)

(c) Briefly discuss the principles of management of secondary lactose intolerance in a 10 month old on weaning foods, breast milk and formula milk. (30 marks)

5.2. List the causative agents and the symptoms of cow's milk protein allergy. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2005

Date: 18th January, 2005 Time: 9.30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Answer All questions.
Answer each question in a Separate book.

1. A male infant was delivered by an elective lower segment caesarian section (LSCS) at 36 weeks of gestation. The mother had gestational diabetes mellitus which was poorly controlled. The Apgar score was 9 and 9 at one and five minutes respectively. The delivery was attended by the neonatology registrar and the initial examination was normal. Birth weight was 3100g.

   The infant developed grunting soon after birth and at 30 minutes of age the respiratory rate was 70/min with persistent grunting.

   1.1. What is your provisional diagnosis at this stage? (10 marks)
   1.2. Outline your management at this stage. (40 marks)

   He continued to have grunting and tachypnoea. Clinical examination did not reveal any other positive findings.

   However at 24 hours of age he developed deep cyanosis, poor peripheral circulation with a prolonged episode of apnoea. He was intubated and resuscitated but responded poorly. He died before being moved into an intensive care unit.

   1.3. List 3 factors which may have resulted in the deterioration at 24 hours of age. (30 marks)

   1.4. What failures in the provision of medical care may have resulted in deterioration and death? (20 marks)

2. A one year 8 month old boy developed fever, watery diarrhoea and vomiting when the family was in Kataragama on a short pilgrimage. On their return journey he was found to be very lethargic and pale. On admission to the hospital he was dehydrated, had a tachycardia with low volume pulse and a BP of 65/40. There was abdominal distension and hepatosplenomegaly was recorded. Hess' test was negative. Capillary refill time was 8 seconds. Within a few hours after starting IV fluids and antibiotics he became flushed. Systolic blood pressure remained at 65 and the diastolic blood pressure became unrecordable. The low volume pulse remained. He was pale and dyspnoeic, passed a tarry stool and skin became blotchy with multiple ecchymotic patches. From the time of admission urine was not passed and the bladder was empty.

The platelet count was 32000/mm3. Hb was 7.6 g/dl. Within the next day bleeding stopped but a left sided pleural effusion and ascites were noted. The child's skin became erythematous and IV cannulation was 'made difficult by the generalized oedema. With improvement of his erythema skin became scaly and peeled off. Mother showed a tender lump 2 cm x 2 cm over the 6th rib on the left anterior chest wall of the child. The child was more playful and became friendly with the staff but again mother complained that he refused to bear weight on the left side on the second week of the illness. A lump was noticed on the dorsum of the left foot.

The swinging fever continued to the 5th week of the illness, pleural effusion and hepatosplenomegaly subsided in the 3rd week.

2.1. What is the most likely diagnosis on admission? (20 marks)

2.2. Mention another condition which has a similar clinical picture. (05 marks)

2.3. List 5 investigations that would support your most likely diagnosis. (15 marks)

2.4. Explain the reasons for the,

2.4.1. Decrease in the diastolic BP after initiation of the treatment. (10 marks)

2.4.2 Appearance of the multiple lumps. (10 marks)

2.5. Outline the most appropriate management.

2.5.1. On the 1st day of admission. (30 marks)

2.5.2. With the appearance of lumps. (10 marks)

3. A 4 year old boy from Thanamalvila was referred for investigation of inability to talk. He was born at term following a normal vaginal delivery. He is the only child of non consanguineous parents. Birth weight was 2.5 kg. Development was apparently normal until he was admitted to the preschool at three years of age.

At the end of the first term the preschool teacher expressed her concerns of him being quiet most of the time. On her instructions he was shown to the general practitioner and was prescribed drops to remove wax found in both ears.

Thereafter he showed some improvement for a few months. During the next vacation the relations who came home too found that he was less responsive to verbal commands. At the end of the year he stopped talking completely and was communicating with gestures. During the .last year he has had six episodes of abnormal behaviour where he came running to the mother and clung to her for a few minutes.

On examination the child was neurologically normal. No evidence of regression of other mile stones was noted.

Child was investigated and treated. He was followed up at the clinic and at the end of one and half years he showed a significant improvement in speech.

3.1. State five specific features in the history that would enable you to arrive at a possible diagnosis? (25 marks)
3.2. What is the most likely diagnosis? (30 marks)
3.3. List three other conditions you would consider in the differential diagnosis. (15 marks)
3.4. List five investigations and / or assessments you would perform on this child? (30 marks)

4. A three year old boy was rushed to the paediatric medical ward with marked bleeding per rectum. He was well that morning apart from mild fever and coryza. There was no abdominal pain or pain on defeacation.

On arrival he was conscious with a pulse rate of 100/ minute. Blood pressure was 85/65mmHg. Temperature was 37.5°C. Cervical and inguinal lymph nodes were palpable. The abdomen was soft and not distended. Liver was 1 cm below the right costal margin. Lungs were clear on auscultation.

He was born at term following a normal delivery and had a birth weight of 3.2 kg. Neonatal period was uneventful. Father is a 35 year old casual labourer and mother is a 30 year old housewife. Both parents and the other five year old sibling are in good health.

On questioning it was revealed that the boy has had two episodes of mild bleeding, per rectum and malena once, for which no treatment was sought.

Investigations,

Hb - 8.0 g/dl
WBC/DC - 10 x 109/litre, N - 65%, L - 35%
ESR - 20 mm/hr
Platelet count - 180 x 109/litre
Bleeding time - 4 minutes
Clotting time - 6 minutes
Urinalysis - negative
SGPT - 20 IU

4.1 Outline the immediate management of this patient. (15 marks)

4.2 What additional elements in the history would specifically help in arriving at a possible diagnosis? (15 marks)

4.3. List the two most likely diagnoses. (20 marks)

4.4. Which investigations would specifically confirm these two conditions? (20 marks)

4.5. Give the reasons for bleeding in these two conditions. (15 marks)

4.6. What are the other complications that could occur in these two conditions? (15 marks)

5. A 15 year old girl presented with high fever with rigors of 10 days duration. She complained about loss of appetite, feeling tired and pain over large joints. She had no symptoms suggestive of upper or lower respiratory tract infection. There was no history of dysuria or increased frequency of urine. Bowel movements were normal.

She has a past history of similar illness one year ago and had been hospitalized and treated for four weeks. Since then she has been well generally, except for having three episodes of headache with nose bleeds which were treated by a general practitioner. Child is allergic to penicillin.

On examination

A well built child, who is febrile and illlooking. . There were purpuric spots over the body and limbs. She had mild pallor. There was no lymphadenopathy. Both ankles were swollen with pitting oedema and movements were painful. Pulse was 110 per minute. Both femoral pulses were difficult to palpate. Blood pressure was 140/90 mmHg. There were visible pulsations over the suprasternal notch. On auscultation a systolic murmur was heard over the second left intercostals space. Liver was tender and palpable 3 cm below the right costal margin. Spleen was just palpable.

Investigations,

FBC
Hb 9 g/dl,
WBC - 10,000cmm, N - 40%, L - 60%
Platelet count 180,000/cmm
UFR - Albumin+, red cells 20 -30/high power field
Pus cells - 10/ high power field
Urine culture sterile

5.1. List three other investigations that wi11 help you to arrive at a definitive diagnosis. (30 marks)

5.2. What is the most likely diagnosis? (30 marks)

5.3 Outline the management giving reasons for the steps you Would take? (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY, 2005

Date :- 18th July, 2005 Time :- 1.30 p.m. - 4.30 p.m.

PAPER I

STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q1

1.1. Define vertical transmission. (15 marks)

1.2. List three important viruses which could be transmitted to the baby during a vaginal delivery from an infected mother. (15 marks)

1.3. Discuss the complications you would anticipate in the affected babies. (40 marks)

1.4 Discuss the preventive measures you would undertake to minimize the risks to the babies, of mothers affected with infections mentioned in 1.2. (30 marks)

Q2

2.1

a. What is Systemic Inflammatory Response Syndrome (SIRS)? (05 marks)

b. Briefly discuss its stages. (25 marks)

2.2 Briefl y describe causes of shock. (20 marks)

2.3. Outline pathophysiology of shock (30 marks)

2.4 Mention how you would monitor a patient with shock in an Intensive Care Unit. (20 marks)

Q3

3.1.

a Briefly describe multifactorial inheritance (25 marks)

b Mention five disorders inherited through 3.1.a (10 marks)

c Discuss the indications for chromosome studies giving examples for each. (25marks)

3.2. Briefly explain how the following investigations be useful for antenatal diagnosis of Down Syndrome

(a) Ultrsonography (20 marks)
(b) Maternal serum screening (20 marks)

Q4.

4.1. Name four plasma components used in Sri Lanka (10 marks)

4.2. Name five fractionated products made from fresh frozen plasma and list indications for their use (20 marks)

4.3. Mention three adverse effects that can happen after a fresh frozen plasma transfusion and what precautions would you take to avoid them. (15marks)

4.4. Give four indications for exchange transfusion in a neonate and what are the desired objectives in each. (20 marks)

4.5

a. Give the reason for transfusion associated Graft versus Host Disease(TA-GVHD) (10 marks)

b List four conditions where Transfusion associated graft versus Host Disease can occur after a blood/blood product transfusion in an infant less than four months of age. (20 marks)

c. What precautions should be taken to prevent transfusion associated Graft Versus Host Disease in the conditions mentioned in 4.5.b (5 marks)

Q.5

5.1. What is encopresis ? (10 marks)

5.2. Discuss the aetiological factors of encopresis in a child. (20 marks)

5.3 How would you evaluate a child with the above condition? (30 marks)

5.4 Mention the possible complications of factors mentioned in 5.2. (10 marks)

5.5 Propose a plan of management for a 5 year old child with encopresis. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY 2005

Date:- 19 July 2005 Time :- 9:30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Answer all questions.
Answer each question in a separate book.

1. A three week old baby girl was admitted to the hospital on the advice of the family health worker. She is the 4th child of non con sanguinous parents. Mother is 39 years old and is in good health. Antenatal history was uneventful and the baby was delivered vaginally at a private nursing home. Birth weight was 3.4kg. Mother and baby were discharged from hospital after two days.

   Baby was exclusively breastfed. She had sucked well at the breast according to the mother who successfully breast fed the other 3 children aged 12, 10 & 7 years. There was no history of vomiting but she has not passed stools for the last six days.

   On admission Baby was lethargic and had a hoarse cry. Weight on admission was 2.8 kg. Temperature was 37.80 C. Her skin was dry. Anterior fontanelle was full, but not tense. Baby had no dysmorphic features, jaundice or hepato-splenomegally. Pulse rate was 150 per min., normal volume.

   Investigations:

Hb.	18.2 g/dl
WBC/DC	7.8 x 10^9/L N-54%, L-46% ,
CRP	4 mg/L (normal <6),
Blood urea	10.8 mmol/L
Blood sugar	27 mmol/L
Serum Na	168 mmol/L
Serum K	5.2 mmol/L
Serum bilirubin	3.6 mmol/L

1.1 What is the differential diagnosis ? (20 marks)

1.2. What other relevant investigations are indicated ? (20 marks)

1.3. Discuss the management of this baby. (40 marks)

1.4. Mention the complications that you would anticipate. (20 marks)

2. A 9-month old boy presented with increasing lethargy, sweatiness, breathlessness and failure to thrive over a three month period. His appetite was poor, but there wa~ no history of vomiting or diarrhoea. He was born full-term by emergency Caeserean section for fetal distress. He was in the neonatal intensive care for 2 weeks, and required mechanical ventilation for 5 days. Physical findings include weight in the 3 rd centile, height in the 50th centile, heart rate of 140/min, and respiratory rate of 40/min. The apex beat was displaced to the 6th intercostals space, anterior axillary line. Auscultation revealed a gallop rhythm, with a soft ejection systolic murmur along the left sternal edge. There were bilateral crepitations in the lungs. The liver was enlarged 4 cm below the right subcostal margin. The spleen was not palpable. Blood pressure was 125/85 mm Hg.

2.1 What is the cause of failure to thrive in this infant ? (20 marks)

2.2 List **five** causes of this condition in this boy, giving **one** important clinical feature (either from the history or physical examination) that you could elicit to support your diagnosis. (30 marks)

2.3 What is your immediate treatment for this boy ? (30 marks)

The next day, he threw a generalized seizure in the ward, and was noted to have less movement of his left upper and lower limbs.

2.4. What is the most important investigation that you would order in the management of this boy, and why ? (20 marks)

3. A 11 year-old boy was transferred for further management of Nephrotic Syndrome. Child has been apparently well until 2 weeks ago, when he developed swelling of the body, gross proteinuria and a blood pressure of 160/90. He was treated with Prednisolone 60mg / m2/ day, and Nifedipine SR 20mg bd for 2 weeks prior to transfer.

On examination the child was alert and cooperative, but hadi gross oedema. He was not pale. Pulse 90/min with a good volume, BP 160/90 mmHg, and the rest of the cardiovascular system examination was normal. The examination of the respiratory system revealed an effusion on the right side. There was tense ascites in the abdomen.

Investigations on admission

Hb	11.6 gm/dl
WBC/ DC	18 x 10^9/L, N- 72%,L-24%
Platelet count	457 x 10^9 /L
ESR	7mm in 1st hour
Antinuclear antibodies	negative
Urine	Albumin +++,
	Pus cells 20-25, red cells-l- 2, granular casts ++
Urine Culture	sterile
Blood Urea	6.9 mmol/L
Na	136mmol/L
K	4.3mmol/L
Serum Creatinine	50mmol/L
Serum Cholesterol	8.5mmol/L
Serum Proteins	38.2g/L, albumin 15.8g/L, globulin 22.4g/L

Patient was treated with plasma transfusions and frusemide, but proteinuria persisted and oedema progressively increased. Blood pressure remained elevated inspite of antihypertensive therapy.
On the 4th week of the treatment he developed a generalized tonic clonic seizure lasting for 20 minutes. Blood pressure recorded was 160/100.
Ultra sound of the kidneys showed enlarged kidneys with evidence of parenchymal disease

3.1 Giving reasons indicate the management at this stage. (60 marks)

Child showed signs of improvement with a diuresis and reduction of oedema. but continued to complain of right hypochondrial pain. At the end of the 3 rd week of treatment he developed a right upper quadrant abdominal pain with increasing abdominal girth.
Examination revealed a tender hepatomegaly of 4 cm below the costal margin and increased ascites.

Investigations :

SGOT	90u/L
SGPT	60u/L
Alkaline Phosphatase	80u/L
Albumin	35gm/L

3.2 What is the most likely cause for the abdominal pain ? (10 marks)

3.3 Indicate two investigations that would help you to confirm the above complication. (20 marks)

3.4 What is the specific management at this stage ? (10marks)

A fourteen day old neonate is referred for the evaluation of ambiguous genitalia. The baby was the first product of a non-consanguinous marriage and was borq at term following an uneventful pregnancy. He weighed 3.0Kg at birth. He was breast fed and his present weight was 3.250Kg.
On examination he was found to be an active, normal looking, well baby. Examination of his ~nitalia revealed that he has a small phallus with the opening of urethra at the base. Labioscrotal folds were fused and a gonad was palpable on the right side.

Results of investigations:

Random blood sugar	5.0 mmol/L
Serum sodium	135 mmol/L
Serum potassium	4.5 mmol/L
Blood urea	5.0 mmol/L
Buccal smear	Negative for barr bodies
X ray of knee	Epiphysis of lower end of femur present
17a OH Progesterone	4.5nmol/L (1.21-6.1nmol/L 1-12months)
Testosterone	4nmol/L (0.1-0.35nmol/L prepubertal)

Ultrasound scan of abdomen-

Kidneys, ureters, bladder, liver and spleen appeared normal and uterus and ovaries were not visualised.

4.1 What are the two most likely diagnoses ? (20 marks)

4.2 How would you confirm the diagnosis? . (30 marks)

4.3 Discuss the management of this baby. (50 marks)

5. A one month old male infant was admitted with difficulty in breathing, abdominal distensi<:m and poor feeding of seven days duration. He was born to non-consanguinous parents. Antenatal history was normal. Birth was uncomplicated with a normal vaginal delivery at term. Early neonatal period was normal. Father iSfl-mason. Mother is a housewife. Birth weight was 3.0 Kg On examination the cIiild was very pale. There were multiple purplish blue raised lesions of 1-2 cm size on the trunk. Mother noted skin lesions since birth. There was generalized lymphadenopathy of 1- 2 cm in size in the cervical and axillary regions. The liver was palpable 6 cm below the right costal margin and the spleen was palpable 5 cm below the left costal margin. The current weight is 3.4 Kg.

5.1 List the differential diagnosis. (30 marks)

5.2 What are the possible causes for the skin lesions ? (10 marks)

5.3 What other clinical features would you look for in this child that would help in the differential diagnosis? (10 marks)

5.4 Discuss the initial investigations you would perform on this child which would help in the acute management. (30 marks)

5.5 What are the specific investigations which would help in the confirmation of the conditio ns you mentioned in 5.1 ? (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2006

Date :- 16th January, 2006 Time :-9.30 p.m.- 12.30 p.m.

PAPER I

STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q 1. Please answer the following questions regarding twins.

1.1 Describe the process of twinning. How does it arise ? (20 marks)

1.2 How can the clinician detennine zygosity ? (10 marks)

1.3 Enumerate the likely problems which could arise during pregnancy and the neonatal period. (40 marks)

1.4 Briefly outline how you would manage the neonatal problems. (30 marks)

Q 2.

2.1 What are the aetiological factors that lead to childhood obesity ? (30 marks)

2.2 List the possible consequences of childhood obesity. (30 marks)

2.3 Discuss briefly the principles of management of childhood obesity. (40 marks)

Q 3.

3.1 Explain briefly what you understand by "screening" in the context of paediatric care. (30 marks)

3.2 List the screening procedures routinely performed in the' neonatal period (in Sri Lanka as well as globally), mentioning the diseases / conditions which are being screened for. (30 marks)

3.3 Briefly discuss the consequences of missed *I* delayed detection in five (05) of the specific conditions mentioned in 3.2 (40 marks)

Q 4.

4.1 List five (05) specific conditions, other than vitamin A deficiency, that cause night blindness (20 marks)

4.2 Discuss the role of vitamin A in the human. (30 marks)

4.3 What are the indicators used to assess vitamin A status in Sri Lanka ? (20 marks)

4.3 Briefly discuss the current vitamin A supplementation programme in Sri Lanka. (30 marks)

Q 5.

5.1 What is avian influenza ? (10 marks)

5.2 Which viruses of avian influenza cause highly pathogenic disease ? (10 marks)

5.3 How do people become infected by this virus ? (30 marks)

5.4 What are the clinical complications of avian influenza in the human ? (10 marks)

5.5 Briefly evaluate the possible risk of a bird flu pandemic. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 2006

Date :-17th January, 2006 Time:- 9.30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Answer all questions.
Answer each question in a separate book.

1. A three year old child on treatment for infantile eczema was found to be pale. She is a product of a non-consanguinous marriage and was born at term with a birth weight of 2.5Kg. She has two siblings 5years and 7 years who are well. She has not had any significant illnesses in the past apart from eczema for which she was treated with local application of steroids and antihistamines. She has been growing well and was consuming a normal adult diet.

   On examination she was found to be moderately pale. There were few small palpable shotty lymph nodes in the neck. Liver was palpable 3cm below the costal margin and spleen was palpable 1cm below the costal margin. Other systems were clinically normal.

   Investigations:

Hb	7.3g1dl
WBC	4.2x109/1 N66%, L31%,E1%,M2%
RBC	1.83x1012 II
PCV	20 %
MCV	70.0 fl (80-95fl)
MCH	20 pg (27-34pg)
MCHC	35 gldl (20-35g1dl)
Patelet count	150x 109 II
RDW	28% (Normal 13-15%)
Blood picture:-	hypochromic, microcytic and polychromatic cells with marked anisopoikilocytosis.
Retic count	4%
Urine urobilin	++
Total bilirubin	25 umol/l Direct 3.0 umol/l
Serum ferritin	110 ng/ml (16-100 ng/ml)
Coombs test	Negative

1.1 What is the most likely diagnosis ? (20 marks)

1.2 List 03 investigations which you would perform to confirm the diagnosis. (30 marks)

She was given a blood transfusion and was discharged from the ward but was lost for follow-up. She presented to the clinic again at the age of nine years with lethargy and was found to be pale on examination. She has a spleen palpable 2 cm below the costal margin.

Investigations done at this stage are as follows :

Hb	4.2g1dl
PCV	13 %
Platelet count	93x 10^9 /L
MCV	99.0 fl (80-95fl)
MCHC	33.4 g/dL (20-35g/dl)
WBC	4.3x10^9/L N40% L55% E05%

Blood picture: Hypochromic and macrocytic with many polychromatic cells, normoblsts and anisocytosis. Total red cell count low and white cell count is marginally low. Differential count shows left shift ofneutrophils with hypersegmented neutrophils. Platelets are low.

Urine urobilin	++
ESR	43 mm 1st hr
Total bilirubin	21.3 mmol/L, Direct - 3.4mmol/L
Reticulocyte count	6%

1.3 Provide a complete explanation for the current haematological findings. (20 marks)

1.4 List three specific investigations that would be indicated at this stage. (30 marks)

2. 5 year old child, is diagnosed as having Diabetes mellitus after presenting with excessive thirst and polyuria. He was admitted for initiation *of* insulin therapy and was stabilized on Mixtard 16 units in the morning and 8 units at night. He was discharged in 7 days.
Three days later he was readmitted in a coma. The child was not dehydrated. His weight was 15 Kgs. He quickly gained consciousness with treatment. It was felt that the coma may have been prevented if a procedure was carried out in the ward before discharge.

2.1 What was the most likely cause for coma? (4 marks)

2.2 What was the treatment given? (4 marks)

2.3 What is the procedure referred to above? (12 marks)

The child was discharged with a readjusted dosage *of* insulin. A few days later he developed cough and fever for which the doctor in the clinic prescribed Cephalexin. Thirst and polyuria gradually reappeared and within 5 days he was readmitted in a coma. He was 10% dehydrated and exhibited acidotic breathing. He was started on intravenous fluids for rehydration and an insulin infusion. Acidosis was corrected with intravenous sodium bicarbonate.

2.4 What is the type and volume of fluids you would use in the next 24 hours ? (15 marks)

2.5 What is the dose of insulin you would have initially used for the infusion ? (10 marks)

2.6 What are the problems that you may encounter in correcting acidosis with intravenous bicarbonate ? (15 marks)

The level of consciousness improved steadily but deteriorated soon afterwards. The senior registrar observed the monitored parameters and immediately altered the same treatment regime. The condition *of* the child steadily improved over the next few hours.

2.7 What is the likely complication that led to the deterioration of consciousness ? (20 marks)

2.8 What are the likely contributory causes that may have led to the above condition ? (20 marks)

3. A 10 year old girl from Hambanthota presented with a history of fever and malaise of 3 weeks duration. She has been treated by a general practitioner with a cephalosporin and a macrolide antibiotic for the last ten days.

She had been near-drowned following tsunami and was cared for at General Hospital Matara for two weeks. She has been on psychiatric medications for a post-traumatic stress disorder over the last few months.

Her father and 3 other siblings died following tsunami. Following the destruction of their property, they still live in a te1p.porary shelter.
On admission she was febrile, conscious and rational. Her respiratory rate was 40 per minute and air entry was reduced over right lower zone with dullness over the same area. Apex of the heart was on the 6th inter costal space lateral to mid-clavicular line with a blood pressure of 100/90 mm Hg. There was a 3 cm hepatomegaly and the spleen was just palpable. The central nervous system examination revealed no abnormality.

Following investigations were available :

FBC	Hb 8gr/dl WBC/DC $6.7x10^9$/L N=45%, L=45%, E=06%, M=04% Platelet count 90x 10^9/L
Blood picture	Hypochromic microcytic with polychromatic cells and excessive rouleux formation.
ESR	110mm/1^{st} hour
Aspartate transaminase	65U/L
Alanine transaminase	55U/L
Serum creatinine	0.5mg/dL
Serum sodium	138mmol/L
Serum potassium	4mmol/L
Urine analysis	 proteins 50 mg/dL Red blood cells 5/hpf Granular casts present
Chest x-ray P A view	Homogenous opacity in the right lower zone. No cardiomegaly.

3.1 What is the most likely diagnosis ? (20 marks)

3.2 List two investigations which would help in confirming the diagnosis. (10 marks)

3.3 List six (06) further investigations needed for the management of this child. (30 marks)

3.4 List the principles of management. (20 marks)

3.5 Enumerate the long term complications that may occur in this child ? (20 marks)

4. An eight year old girl was admitted to the pediatric casualty ward with a history of fever of 7 days and dyspnoea of 3 days duration. She had been apparently well before this illness and experienced a mild upper respiratory infection a few days prior to this presentation.

On examination she was febrile and had a sinus tachycardia. Her heart sounds were soft. She had a tender liver which extencI.ed 5 em. below the right costal margin. Rest of the clinical examination including the respiratory system was entirely normal.

"

4.1 Name two conditions you would consider in the differential diagnosis. (20 marks)

The day after admission she developed worsening of her dyspnoea and the enlargement of the liver was further increased. The neck veins were found to be distended and the area of cardiac dullness was increased. The lungs remained clear.

4.2 How would you investigate this child to assess the clinical state and arrive at an aetiological diagnosis ? (30 marks)

4.3 Enumerate the principles of management of this child at this stage ? (30 marks)

Over the next 48 hours she developed pain and swelling of both knee and ankle joints.

4.4 What further diagnoses would you consider now ? (20 marks)

An eleven year old boy was brought into the casualty ward from school with a history of severe pain in the right leg. The pain was so severe he was unable to stand or bear weight even with support. He had been walking to the canteen when he had suddenly felt the pain. Apart from mild discomfort in the right hip from time to time, he had been in good health.

He is the only child of non-consanguinous parents. His birth had been uncomplicated with a birth weight of 2.550 kg.

On examination his weight was 68 kg and the height was 147 cm. Both these parameters were well above the 97th centile for his age. He had pigmented velvety skin around the neck and acne. His blood pressure was 110/80 mm Hg. The cardiovascular and respiratory systems were normal. The abdomen was soft with a liver palpable 2 cm below the costal margin. The genitalia revealed evidence of early puberty. The right hip movements were severely restricted by pain.

5.1 What is the most likely cause for the acute presentation ? (20 marks)

5.2 How do you confirm the diagnosis ? (10 marks)

5.3 What is the most likely underlying pathology ? (20 marks)

5.4 List the specific investigations which would be helpful in the management of this child ? (20 marks)

5.5 Enumerate the basic principles of the management of this child. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY, 2006

Date: 17 July, 2006 Time: 9.30 a.m.-12.30 p.m.

PAPER I

STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each Question in a separate book.

Q 1. In neonatal herpes simplex infection, acquired perinatally

1.1 What are the clinical features ? (30 marks)

1.2 How would you confirm the diagnosis utilizing laboratory Investigations ? (20 marks)

1.3 How would you manage ? (30 marks)

1.4 How would you prevent ? (20 marks)

Q 2

2.1 What criteria should be fulfilled to make a diagnosis of lactation failure in a mother with a four week old infant ? (30 marks)

2.2 List four investigations you would perform in an infant admitted with suspected lactation failure. (20 marks)

2.3 Outline the management of lactation failure. (50 marks)

Q 3.

3.1 What are the three advantages of syndromic classification of seizures ? (15 marks)

3.2 List five of these syndromes. (25 marks)

3.3 List the clinical features, characteristic EEG patterns and prognosis of two epilepsy syndromes mentioned in 3.2. (60 marks)

Q 4

4.1 Outline the physiology of iron absorption. (30 marks)

4.2 List the factors affecting iron absorption in the intestine. (20 marks)

4.3 List **five** conditions which could cause anaemia and recurrent abdominal pain in a 3 year old child. (20 marks)

4.4 How would you confirm the diagnosis of five conditions mentjoned in 4.2.1 (30 marks)

Q 5

5.1 Outline the pathophysiology of diabetic ketoacidosis and its clinical features. (30 marks)

5.2 Outline the management of diabetic ketoacidosis. (40 marks)

5.3 Explain the reasons for early morning hyperglycemia in diabetic children on insulin. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY, 2006

Date :-18th July, 2006 Time:- 9.30 a.m. - 12.30 p.m.

PAPER II

CASE HISTORIES

Answer all questions.
Answer each question in a separate book.

1. A five-month-old baby girl was admitted to the paediatric ward with difficulty in breathing. There were no preceding upper respiratory symptoms. Two weeks prior to admission she presented to a local hospital with restlessness and was diagnosed as having a urinary tract infection.

   She is a product of a consanguineous marriage. She was born following an uneventful pregnancy and her birth weight was 2.8 kg. She was exclusively breast-fed and there was no history of recurrent severe infections. Her brother died at the age of three months with a history suggestive of a breathing difficulty.

   On examination she exhibited deep breathing, with a respiratory rate of 60/min and a heart rate of 176/min. Her axillary temperature was 36.50C. Her length, weight and blood pressure percentiles were in the normal range. Marked hepatomegaly was detected on physical examination. There were no abnormal physical signs in the other systems.

   While in the ward she passed a stone in the urine.

   Results of the investigations done are as follows:

Blood pH	7.05	(7.35- 7.45)
PCO_2	9.6 mm Hg	(32-45 mm Hg)
Bicarbonate	2.4 mmol/L	(18 - 25 mmol/L)
Base excess	- 25.1 mmol /L	(-3 to +3 mmol/L)
Sodium	143 mmol /L	(133 - 145 mmol/L)
Potassium	3.9 mmol/L	(3.5 - 5.0 mmol/L)
Chloride	94 mmol/L	(96 -110 mmol/L)
Blood urea	3 mmol/d1	(2.5 - 6.5 mmol/L)
Serum creatinine	20 umol/dL	(18-35 umol/dL)
Total proteins	4.6 g/dL	(60-80g/L)
Albumin	3.0 g/dL	(35- 55 g/L)
SGOT	570 U/L	(0-50 U/L)
SGPT	200 U/L	(0-40 U/L)
Total bilirubin	0.15 mg/dl	(<lmg/dl)
Calcium	1.1 mmol/L	(1.0-1.3mmol/L)
Phosphorus	4.3 mmol/L	(3.6-5.9 mmol/L)
Blood sugar	2.5mmol/l	(3.3-5.5mmo/L)
Hb	10.2g/dl	(9-14 g/dL)
WBC	12 x 10^9/l, Neutrophils 44%, Lymphocytes 56%	
Platelet count	733 x 10^9 /mm^3	
Triglycerides	1988 mg/dl	
Serum cholesterol	296 mg/dl	(110-263mg/dL)

Urine analysis

Proteins trace and red cells	10-15/HPF
pH	6.0
Specific gravity	1.030
Reducing substances	Negative

U/S Scan abdomen - Enlarged liver (115mm), Spleen 91mm,enlarged kidneys with normal echogenecity and hyper dense areas of 7mm diameter on left inferior region. 3mm on the left middle region, and 5mm on the right middle calyx suggestive of calculi was seen.

1.1 Describe the derangement in acid base status. (5 marks)

1.2 Calculate the anion gap in this child. (5 marks)

1.3 Name **three** different conditions that can give rise to a similar anion gap. (15 marks)

1.4 Name the most likely diagnosis in this child. (20 marks)

1.5 Describe **four** further investigations that you would request to arrive at a diagnosis. (20 marks)

1.6 Describe in detail the procedure involved in performing the most important investigation that would confirm your diagnosis in 1.4 (Mention precautions that you would take to ensure a valid laboratory result). (15 marks)

1.7 Outline the steps in the treatment of this child. (20 marks)

2. A male infant presented at 8 weeks with jaundice and poor feeding. His weight was 3050 g (< 3rd centile). He appeared active and alert with no fever. The liver was palpable 2 c m below the costal margin. The spleen was not palpable. The nasal bridge was depressed and some dysmorphism was suspected but it was thought that the features were not adequately distinct to be certain. A grade 2/6 systolic murmur was heard at the base of the heart. On ophthalmologic examination red reflex was present.
He had been born at term by spontaneous vertex delivery to non consanguineous parents. The pregnancy was uncomplicated, Apgar score was 9 at 1 minute and birth weight 2300 g (3^{rd} - 5^{th} centile).

Total bilirubin	247 umol/l	(0-20 umol/l)
Conjugated bilirubin	223 umol/l	(0-20 umol/l)
Aspartate Transaminase	78 U/l	(15-45 U/l)
Alanine Transaminase	69 U/l	(10-40 U/l)
Serum albumin	38	(30-45 g/l)
Thyroid stimulating hormone	4.12 mlU/L	(1.7-9.1 mlU/L)
Torch Screen	Negative	
Urine- Reducing substances	Negative	
Random blood sugar	3.8 mmol/l	(3.3-5.5 mmol/l)

2.1 Name **five** further investigations you would perform to evaluate the hyerbilirubinaemia and arrive at a diagnosis. (30 marks)

2.2 Discuss your interpretation of the findings of **each** of the investigations you mentioned in 2.1. (30 marks)

Over the next three months the hyperbilirubinaemia and the transaminases resolved completely but he remained "a poor feeder".

At the age of eleven months the mother complains he is " colicky" and irritable.

He now has obvious dysmorphism. The facial features include puffiness around the eyes, full cheeks and thick lips. There is definite failure to thrive and short stature. He has just begun to roll over and can not sit without support. He reaches out but does not transfer objects. The heart murmur is now easily audible and the echocardiogram shows supravalvular stenosis. The blood pressure is 135 I 85 mmHg. The vertebral column is normal on x-ray.

At the child development clinic the consultant suggests a serum calcium estimation which is found to be elevated.

2.3 With this additional information, what diagnosis would you now consider. (20 marks)

2.4 Describe the developmental abnormalities and personality characteristics this child may manifest as he grows up. (10 marks)

2.5 List the factors that determine long term medical complications in this child. (10 marks)

3. A four year old boy was admitted to Polonnaruwa Hospital early in the morning with a history of severe abdominal pain. He had been well apart from mild fever two days ago. On questioning he admitted that he was kicked on the abdomen by a friend in his preschool.

A few hours later he was found to be unconscious and all four limbs were floppy. The axillary temperature was 37.9° C, pulse 100/min, normal volume and respiratory rate was 45/min.Breathing was mainly abdominal and the lungs were clear. Abdomen was soft and not distended. There were no injuries on the abdominal wall. There was a squint in the left eye and the pupils were equal and reacting to light.

He had been born at term weighing 3.2 kg. His development was normal and last immunization was given at one-and half years.

The father is a 40 year old farmer and the mother a 35 year old housewife, who is on treatment for epilepsy. They live in a single roomed cadjan-thatched hut and drink unboiled well water. There are two other healthy siblings in the family.

3.1 What further information would you elicit in the history ? (10 marks)

3.2 Give the most likely diagnosis. (20 marks)

3.3 Give **five** features in this history and examination that enabled you to arrive at the above diagnosis. (20 marks)

3.4 Explain the mechanism that has caused the recent onset squint. (10 marks)

3.5 Discuss the specific treatment you would prescribe. (10 marks)

3.6 Mention the life threatening complication. (10 marks)

3.7 Outline the management of this complication. (20 marks)

4. A 12 year old girl from a remote village was admitted with severe dyspnoea, chest pain and generalized oedema of three days duration. She had taken treatment for joint pains during the past few months from a general practitioner. Over the last three days she developed swelling of the ankles which gradually increased. On examination she was febrile and very dyspnoeic. She had generalized oedema and significant generalized lymphadenopathy. The pulse was 130/min, irregular and of low volume. Her blood pressure was 90/50 mm Hg. A systolic murmur was heard at the apex. A tender liver was palpable 4 cm below the right costal margin. Spleen was palpable 3cm below the left costal margin aifd there was free fluid in the abdomen. Lung bases had fine crepitations.

Following investigations were available.

Urine full report	Proteins ++, Pus cells 5-6/HPF, Red cells 7-8/HPF Red cell casts +.
ESR	140 mm 1st hour.
Hb	6.5 g/dl (12 -14 g/dl)
WBC	5.6 x 10^9/L, N 56%, L 40%, E 4%.
Platelet count	126 x 10^9/L
Blood picture	rouleaux formation ++.
Blood urea	3.3 mmol/l (2.5 - 6.5 mmol /L)
Serum Na	135 mmol/l, (133-145 mmol /L)
Serum K	4.5 mmol/l. (3.5-5 mmol /L)

4.1 What are the possible causes for dyspnoea ? (15 marks)

4.2 List the differential diagnosis (**three** diagnoses) in order of probability? (30 marks)

4.3 Name **four** other important clinical features you would look for. (20 marks)

4.4 Name **four** important investigations that you would perform in order to arrive at a diagnosis. (20 marks)

4.5 Outline the treatment of the most probable diagnosis. (15 marks)

5. A baby boy was born at 37 weeks of gestation by emergency caesarian section for fetal distress. He was the first born to non consanguineous parents. At birth the cord was tightly wound around the neck and the Apgar score was 5 at one minute. He was bagged .with oxygen and the five minute Apgar score improved to 9. His birth weight was 2.6 Kg. The baby was given to the mother and he fed satisfactorily at the breast. Vitamin K 1 mg was injected i~!ra muscularly.
On Day 3 red co10ured blood was noticed in the stools. He was not pale and appeared otherwise well.

Full blood count done at this stage showed;

Hb	16 g/dl,
White cell count	12,000/ mm^3
	Neutrophils 60%, Lymphocytes 40%.
Platelet count	151,000/mm^3

He was kept under observation but continued to pass blood in the stools.
The following day he was lethargic and feeding poorly. On examination he was pale and had a full fontanelle. The peripheries were cold with low volume pulses and the skin was mottled.

5.1 List **three** possible causes that would explain the bleeding per rectum. (15 marks)

5.2 Give a reason/s for the clinical deterioration. (15 marks)

5.3 List the investigations you would carry out when the baby deteriorated giving reasons for requesting these. (40 marks)

5.4 Discuss the immediate treatment of this baby. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 2007

Date: 22nd January 2007 Time: 9.30 a.m. - 12.30 p.m.

Answer all five questions.
Answer each question in a separate book.

I.

1.1 Define an apparent life threatening event (ALTE). (10 marks)

1.2 List 8 conditions for the differential diagnosis in an infant presenting with ALTE. (20 marks)

1.3 Discuss the infonnation you would seek in the history and the examination to arrive at the diagnoses of the conditions mentioned in 1.2. (40 marks)

1.4 List 10 investigations you would perform in an infant with ALTE and state how these would be useful to arrive at a diagnosis. (30 marks)

2. Briefly discuss the advice given to the parents regarding

2.1 the long term management of a 3 year old on treatment for Addison disease (30 marks)

2.2 the long term management of a previously well 18 month old on thyroxine for a recently diagnosed lingual thyroid gland. (30 marks)

2.3 insulin therapy in a 4 year old with newly diagnosed Type 1 diabetes mellitus who has been commenced on a combination of short and intermediate acting insulin given with a syringe, twice a day. (40 marks)

3.

3.1 Outline the classification of scoliosis (20 marks)

3.2 Give an example for each type (six). (20 marks)

3.3 Give the examination findings that would help you to arrive at the diagnosis of the six conditions mentioned in 3.2. (45 marks)

3.4 List 3 indications for treatment of a 9 year old with progressive scoliosis. (15 marks)

4.

4.1 Describe the pathophysiology of the following in portal hypertension.

4.1.1 Haematemesis. (15 marks)
4.1.2 Ascites. (15 marks)

4.2 Discuss the clinical features to differentiate extrahepatic portal hypel1ension from intrahepatic p011al hypel1ension. (30 marks)

4.3 List 5 investigations you would perform in a child with extrahepatic portal hypel1ension. (15 marks)

4.4 Outline the management of haematemesis of a child with portal hypel1ension. (25 marks)

5.

5.1

5.J.1 What is meant by clinical audit ? (20 marks)

5.1.2 What are the types of clinical audit ? (15 marks)

5.1.3 What are the benefits of clinical audit to a) patients ?
b) care givers ? (15 marks)

5.2

5.2.1 What is meant by paediatrtic
5.2.1.1 palliative care ? (10 marks)
5.2.1.2 end oflife care? (10 marks)
5.2.1.3 bereavement care ? (10 marks)

5.2.2 Discuss briefly the ethical dilemmas you would encounter during palliative care. (20 marks)

POSTGRADUATE INSTIUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2007

Date : 23rd January 2007 Time : 9.30 a.m. -12.30 p.m.

PAPER II

CASE HISTORIES

Answer all questions.
Answer each question in a separate book.

1. A baby was born by elective caesarian section. He was pink and cried at birth but soon after became tachypnoeic and mildly cyanosed. Baby was admitted to NICU for further management.

   Tachypnoea gradually worsened with central cyanosis and unsatisfactory arterial~blood gases.

   In view of the deteriorating clinical condition, positive pressure ventilation was initiated. CXR taken immediately after ventilation showed a completely collapsed right lung. **(observation 1)**

   The medical officer on duty inserted an inter-costal tube, but as soon as the tube was connected to the under water seal, water drew up into the tube connection **(observation 2).**

   Hence the tube was quickly clamped.

   The CXR taken soon after showed a film identical to the initial film with the IC tube in the correct position.

   Baby was given routine care. Thick secretions were noted in the ET tube and needed suction 2-4 hourly.

   CXR repeated 12 hours later showed well expanded right lung **(observation 3).**

ABG done at this stage showed hyperoxia and respiratory alkalosis **(observation** 4).

1.1. Give 2 possibilities for observation 1 (30 marks)

1.2. What is the explanation for observation 2 ? (20 marks)

1.3. What is the reason for observation 3 ? (30 marks)

1.4. What 2 management steps should be taken after observations 3 and 4 ? (20 marks)

2. A 3 year old boy from a remote village was transferred to the Emergency Treatment Unit with a history of a brief generalized convulsion which responded to rectal diazepam at the local hospital.

On admission he was confused, tachypnoeic with a respiratory rate of 40/min with normal air entry, without any added sounds. Pulse rate was very rapid and difficult to count. There was no other abnormality on cardiovascular examination. BP was 100/65mmHg.

His extremities were warm and capillary refill time was < 2 seconds. Oximetry reading was 98%.

12 lead ECG monitor revealed narrow QRS complexes with a regular rhythm. P waves were identified with difficulty and were negative in LI and aVF.

2.1. What is the diagnosis of the acute presentation at the Emergency Treatment Unit ? (10 marks)

2.2. List principles of management. (30 marks)

After immediate resuscitation, detailed history was obtained and mother was very clear in stating that this child had no medical condition in the past and he has been perfectly well in the past. She refused any possibility of head injury.

This child is the youngest in a family of 4 children and routine MOH clinic visits have been made. Father has left the family and mother is the only breadwinner of the family and earns a living by plucking tea. During her absence from home the eldest 7 year old child looks after the family.

On re examination following information was revealed.

Still confused, GCS was 10. No neck rigidity and no external signs of injury. The lips and tongue were dry. Pupils were dilated and poorly reacted to light. Rest of the CNS examination was normal including the fundi.

Heart rate now has come down to 130 /min and his respiratory rate now is 20/min

Bladder was up to the umbilicus.

2.3. What is the likely aetiology of this clinical presentation ? (40 marks)

2.4. Briefly describe the overall management including the social aspects. (20 marks)

3. A 10 year old boy presented with a history of fatigue and weakness over the last 5 months. According to his parents he prefers to be indoors and refused to attend school during this period. He has not had fever, cough or headache.

From 8 years of age he has developed episodes of loss of consciousness which were treated with sodium valporate in a Neurology Unit. There has been no improvement despite maximum dose of valporate.

His 16 year old brother who also had been on sodium valporate died 2 years ago. All other family members are apparently healthy.

On examination
His weight was 25 kg. Body temperature 37°C
He was conscious with a GCS of 15 .Oxygen saturation of 98%.
His respiratory rate was 25 breaths per min. with vesicular breathing with no added sounds over lungs. Pulse rate was 100 beats per min. with an ejection systolic murmur present over the left sternal border. Blood pressure reading was 100170 mmHg
Central nervous system and abdominal examination did not reveal any abnormality.

Following investigations were available

Hb%	12g/dl
WBC/DC	10,000cmm, N-60%, L- 40%
ESR	12mm/hr
Blood Urea	.3mmol/L
Serum electrolytes	Sodium-135mmol/L K-3.6mmol/L
Blood sugar	4.4mmol/L
Serum calcium	2.2mol/L
EEG	normal
MRI scan of brain	normal
CXRay	mild cardiomegaly with prominence of left ventricle
SGOT	40 U/L
SGPT	20U/L
Serum bilirubin	10micromol/L

3.1. What is the most likely diagnosis ? (30 marks)

3.2. List 2 other important physical findings that will help you arrive at a diagnosis. (10 marks)

3.3. List 2 other investigations with the expected abnormality that will help you to arrive at a definite diagnosis (40 marks)

3.4. Name 2 measures which are detrimental to this child. (20 marks)

4. A 10 year old boy with a past history of nephrotic syndrome was admitted to the paediatric ward with oliguria. There was no history of fever prior to the admission. On examination he was grossly oedematous and his blood pressure was 140/90 mmHg.

Following investigations were done.

S. Protein	Total	4.9 g/dl	(6 - 8 g/dl)
	Albumin	1.5 g/dl	(3.5 - 5.5 g/dl)
S. Cholesterol		356 mg/dl	(110 - 150 mg/dl)
S. Sodium		112 mmol/L	(133 - 145 mmol/L)
S. Potassium		5.6 mmol/L	(3.5 - 5.5 mmol/L)
S. Creatinine		160µmol/dl	(20 - 80 µmol/dl)
S. Calcium		1.9 mmol/L	(2.2 - 2.75 mmol/L)
Urinary Sodium		600 mmol/24 hr.	(40 - 225 mmol/24 hr.)

4.1. What are the present clinical problems ? (20 marks)

4.2. Give 3 possible underlying conditions for this presentation. (30 marks)

4.3. List 4 investigations that would help to differentiate the conditions mentioned in 4.2. (30 marks)

4.4. The child developed a prolonged convulsion while in the ward. List 4 possible causes for this convulsion. (20 marks)

5. A 9 year old girl was admitted with severe abdominal pain. She has had fever associated with headache, body aches, vomiting and loose stools for the past 6 days. Stools had not contained blood or mucus. She was agitated and was complaining of abdominal and chest pain and muscle cramps in the legs, arms and shoulders. She was very irritable and jumpy when touched. On examination she had red eyes and enlarged cervical lymph nodes. There was neck stiffness. The abdomen was diffusely tender and she did not allow deep palpation. Her pulse was 126/min and volume was low. An intravenous fluid bolus was given on admission. She passed some dark urine in the ward.

Several investigations were requested and the following results were available.

Hb	-	13.4 g/dl
WBC DC	-	15,800 (N - 89, L - 7, E. 4)
Platelets	-	490,0001mm3
Blood urea	-	6 mmol/L (1.8 - 6.4. mmol/L)
S. Sodium	-	136 mmol/L
S. Potassium	-	4.28 mmol/L
SGOT	-	33 IU/L(O - 37)
SGPT	-	97 IU/L (0 - 40)

5.1. List 4 vital investigations that will help you to arrive at a diagnosis. (20 marks)

5.2. What is the most likely diagnosis ? (30 marks)

5.3. Outline the principles of management. (50 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY 2007

Date : 16th July 2007 Time : 9.00 a.m. -12.00 noon

PAPER I

STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q.1.

1.1. Describe the pathological processes that lead to Retinopathy of Prematurity (ROP). (20 marks)

1.2. List four conditions that predispose to ROP. (20 marks)

1.3. Enumerate the guidelines to be followed in screening for ROP. (20 marks)

1.4. Mention the possible long term complications of ROP. (20 marks)

1.5. List five other conditions in a newborn needing ophthalmological referral. (20 marks)

Q.2

2.1. Define enuresis. (20 marks)

2.2. Mention the clinical types of enuresis. (30 marks)

2.3. Discuss briefly the principles of management of this problem. (50 marks)

Q.3.

3.1. Discuss briefly the usefulness of anthropometry in the diagnosis of failure to thrive (FIT) in a child presenting at 2 years of age. (40marks)

3.2. List five causes of non-organic failure to thrive. (15 marks)

3.3. In an 18 month old child with failure to thrive

3.3.1. Briefly discuss the principles of management. (30 marks)

3.3.2. Indicate the factors affecting the prognosis. (15 marks)

Q.4.

4.1.

4.1.1. Define "End Stage Renal Disease". (25 marks)

4.1.2. Briefly explain the term "Pre-emptive renal transplant". (15 marks)

4.2. Enumerate the possible gastrointestinal manifestations of End Stage Renal Disease in a 10 year old child. (25 marks)

4.3. Briefly outline the steps of donor evaluation in renal transplantation. (35 marks)

Q.5.

5.1. Briefly discuss the usefulness of the karyotype in a 3 year old girl with clinical features suggestive of Turner syndrome. (15 marks)

5.2. List the autoimmune disorders associated with Turner syndrome and give specific investigations to confirm the aetiology of the endocrine disorders. (25 marks)

5.3. Mention two conditions that are almost invariably associated with this syndrome and discuss the long term management of one of them. (45 marks)

5.4. Mention the possible ways by which this child could become a mother in the future. (15 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY 2007

Date : 17th July 2007 Time :- 9.00 a.m. - 12.00 noon

PAPER II

CASE HISTORIES

Answer all questions.
Answer each question in a separate book.

1. A 12 hour old baby is admitted to the neonatal unit with a convulsion. She was born normally at term and weighed 3 Kg at birth. On examination she was lethargic and the initial blood glucose estimation was 1.2 mmol /1.

1.1. Mention the steps in the immediate management of this baby. (15 marks)

At 72 hours she was on 15% Dextrose 120ml/Kg/day and the baby's Blood sugar was 1.4 mmol/l .

1.2. What is the glucose utilization rate in mg/Kg/min ? (15 marks)

1.3. List five investigations you would carry out at this stage (20 marks)

1.4. Mention two specific drugs that you would use at this stage (10 marks)

The baby was discharged after 5 days and was followed up in the clinic. Persistent hepatomegaly of 3-4 cm was noted during her follow up visits
At the age of 2 months baby was readmitted with fever and cough of 3 days. She has been treated by the General Practitioner with amoxicillin syrup without much improvement. On admission she was found to be febrile and very ill. She was dyspnoeic and respiratory rate was 40/min and had bilateral crepitations. Pulse was 140/min of low volume and capillary refill time was over 3 seconds. She was not jaundiced. Liver was palpable 4 cm below the costal margin. Her weight was 4 kg.

Hb	-	14g/dl
WBC/DC	-	3 x 10^9/L N= 15% , L= 80 % E= 5%
Platelet count	-	200 x 10^9/L
Chest X ray	-	Bilateral patchy consolidations
CRP	-	96 mg/dl
B Sugar	-	1.4 mmol/L

1.5. Mention **three** important steps in the immediate management of this baby. (20 marks)

1.6. What is the most likely diagnosis ? (20 marks)

2. An 8 year old girl was admitted to the intensive care unit one morning needing mechanical ventilation for acute respiratory failure. She had been well the previous day 'and gone to sleep at the usual time. She woke *up* in the morning with lots of secretions in the mouth but was conscious and alert.

2.1. Give **three** possible reasons for her respiratory failure. (30 marks)

2.2. . Mention **two** important clinical features that you would look for in each of the conditions you mentioned in 2.1. (30 marks)

She was weaned off from the ventilator after 3 days and managed in the paediatric ward for the next few days. The house officer noted that she developed a cough each time she took something orally. She had been feeling tired later on in the day for past 3 months.

Following investigations were available:

WBC/DC	-	8 x 10^9/L N= 70% , L= 25 % E= 5%
ESR	-	100 mm
Serum electrolytes	-	repeatedly normal
Chest X Ray	-	Normal

2.3. List **six** relevant investigations you would do for further evaluation and diagnosis. (30 marks)

2.4. What is the most likely diagnosis ? (10 marks)

3. An 8 year old girl was treated for the first episode of nephrotic syndrome with daily prednisolone for six weeks without obtaining a remission. She was normotensive and her renal functions were normaL" Her renal biopsy confirmed focal and segmental glomerulosclerosis. She was then commenced on oral cyclophosphamide at 3mg/kg which was continued for 8 weeks with alternate day predinisolone. In spite of this she continued to have proteinuria and became more oedematous. Cyclosporine A was started at 5mg/kg with alternate day prednisolone. Two weeks after commencing cyclosporine A she became increasingly unwell and oliguric. Her BP was 150/100mm/Hg.

Results of the investigations at this point are as follows

Haemoglobin	-	5.8g/l
Serum Creatinine	-	225mmol/l
Chest X ray	-	Right middle and upper lobe consolidation

3.1. List three possible causes for her low haemoglobin value. (30 marks)

3.2. List five further investigations that you will perform at this stage which will help in the management. (25 marks)

3.3. List three possible causes for her elevated creatinine. (30 marks)

In spite of commencing on broad spectrum antibiotics her respiratory functions deteriorated and the repeat chest x-ray revealed bilateral changes. She died two days later.

3.4. What is the most likely pathophysiological mechanism for her respiratory deterioration ? (15 marks)

4. A five year old child was admitted to the paediatric ward with a one day history of generalised tonic, clonic seizures. He has had three seizures each lasting 10 minutes associated with alteration of level of consciousness prior to admission. He has not had any fever or preceding respiratory symptoms. There was no history suggestive of trauma to the head. He has had a headache and was vomiting intermittently during the month prior to admission. He also had been complaining of muscular pains and cramps involving the lower limbs and numbness of the hands for several months which had been treated by several medical practitioners without much improvement.
He is the seco.nd child of non consanguineous parents and was born vaginally following an uneventful pregnancy. His birth weight was 3kgs.His development has been slightly delayed compared to his elder brother.

On examination, he was conscious and afebrile with normal growth parameters. He was not pale. His skin was dry, scaly. His BP was 90/60. There was no neck stiffness and Kernig's signs were negative. CNS examination did not reveal any focal neurological signs and the fundi showed papilloedema. There were no positive signs in the other systems.

Investigations:

WBC	-	7.2 x 10^9 N 55%, L 40% , E 5%
Hb	-	12g/dl
Sodium	-	135 mmol/L (133-145 mmol/L)
Potassium	-	3.9 mmol/L (3.5 -5.0mmol/L)
Blood urea	-	3 mmol/dl (2.5-6.5 mmol/L)
Serum creatinine	-	20 µmol/dL (18-35 µmol/dL)
Random blood sugar	-	4.2 mmol/L (3.3-5.5 mmol/L)
EEG	-	Normal
MRI scan brain	-	No abnormalities detected

4.1. What is the most likely cause for seizures in this child? (20 marks)

4.2. Mention **eight** clinical features you would look for ? (40 marks)

4.3. Name five other investigations that would help you to arrive at a diagnosis? (30 marks)

4.4. What is the most likely diagnosis ? (10 marks)

5. A ~2 year old boy was admitted to General Hospital, Ratnapura with a history of severe right sided abdominal pain. He had been quite well up to 10 days ago when he developed fever, myalgia, headache and diarrhoea. He was treated by the estate medical practitioner, but as the conditioned worsened and fever continued, he was admitted.
On admission, temperature was 40° C , pulse 92/minute, BP 90/70. He was dehydrated, drowsy and ill. There was mild jaundice, neck stiffness and shotty cervical limp nodes. Liver was 3 cm below the right costal margin and tender. Central nervous system was normal.

Both parents are estate labourers. He plays with his two siblings near a stream, which is muddy after floods.

Investigations:

Hb	-	10.0 g / dl
WBC/DC	-	4.5 x 10^9 per litre N 38%, L 58%, E 4%
Platelet count	-	196,000 x 10^9 / litre
SGPT	-	60 Units/litre
Serum bilirubin	-	80 micromole/litre;

5.1. Mention **four** possible diagnoses. (20 marks)

5.2. List five important investigations that would help you to arrive at a diagnosis ? (25 marks)

In spite of antibiotics and supportive measures his condition deteriorated over the next five days. His vital signs showed a heart rate of 120/min and respiratory rate of 34/min with a temperature of 39°C.

Further investigations showed:

Hb%	-	6.7gm/dl
WBC	-	15.5 x 10^9/l N : 62%, L : 36%, E : 2%
Platelet count	-	75 x 10^9/l

5.3. Give two possible reasons for this clinical deterioration. (30marks)

5.4. List five investigations indicated at this stage. (25marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY, 2008

Date : 21st January 2008 Time: 9.00 a.m. - 12.00 noon

PAPER I - STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q.1.

1.1. Mention how you would clinically identify

1.1.1. chronic constipation (10 marks)

1.1.2. encopresis (10 marks)

1.1.3. Hirschsprung' s disease (10 marks)

1.2. List causes of chronic constipation other than the conditions mentioned above. (10 marks)

1.3. Write the principles of management of

1.3.1. a 3 year old child with a 3 month history of chronic constipation. (20 marks)

1.3.2. a 6 year old child with encopresis. (20 marks)

1.3.3. Hirschsprung's disease. (20 marks)

Q.2.

2.1. Discuss the pathogenesis of physiologic anaemia of infancy. (30 marks)

2.2. Describe the sequence of biochemical and haematological events that lead to iron deficiency anaemia. (25 marks)

2.3. Discuss the treatment of iron deficiency anaemia (including therapeutic response) in paediatric practice. (45 marks)

Q.3.

3.1. Discuss the implications of maternal thyroid disease on fetal development. (40 marks)

3.2. Discuss the causes of goitrous cretinism. (30 mark)

3.3. Write on musculoskeletal manifestations of congenital hypothyroidism. (30 marks)

Q.4.

4.1. Mention the risk of mother to child transfasion in HIV infection and detail the contributing factors that affect transmission. (35 marks)

4.2. Mention the types of antiretroviral drugs and their important adverse effects. (30 marks)

4.3. You are the paediatrician called into attend on a newborn of a HIV positive mother.
Describe how you would manage this baby with regard to breast feeding and immunization. (35 marks)

Q.5.

5.1. Define primary ciliary dyskinesia and list its clinical manifestations. (30 marks)

5.2. List the extrapulmonary manifestations of *Mycoplasma pneumonate* infection. (30 marks)

5.3. Discuss the principles of management of a child with non resolving pneumonia. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JANUARY 2008

Date: 23rd January 2008 Time : 9.00 a.m. - 12.00 noon

PAPER II - CASE HISTORIES

Answer all questions.
Answer each question in a separate book.

1. A 10 year old boy presented to a District General Hospital with a history of intermittent fever, generalized body aches and lethargyof three weeks duration. On examination he was febrile, pale, anicteric and systems examination was unremarkable. His haemogolbin was 6.8 g/dl and serum bilirubin 1.2 mg/dl.

   He was given a blood transfusion. On the following day he passed red urine and had mild icterus.

   1.1. Mention the most likely cause for the dark urine observed at the District General Hospital ? (10 marks)

   As he was not improving he was transferred to a tertiary care hospital for further management. Over the next few days he became more ill, developed high fever and painful swelling of the right knee joint. On examination he looks ill, is febrile and pale but not icteric. There is no lymphadenopathy or rash. The right knee joint is swollen, warm and tender. There is no hepatomegaly. Spleen is felt with difficulty and is tender. Cardiovascular, respiratory and neurological systems are normal.

   He is the firstborn of non consanguineous parents. He has had no significant illness in the past and other siblings are well.

   Investigations

Hb	-	6.0g/dl
WBC	-	2.000 x 10^9/L, N – 30%, L – 70%
Platelet count	-	100 x 10^9/L
CRP	-	96 mg/L
ESR	-	1st hour - 110
Urine analysis	-	Albumin - trace
		Pus cells – 2-5/high power field
		Red cells - nil
Urine culture	-	No growth
Coombs test	-	Negative

1.2. List five other investigations that will help you to arrive at a definitive diagnosis ? (30 marks)

1.3. What is the most likely diagnosis ? (30 marks)

1.4. What is the pathophysiology behind his deterioration at the tertiary care hospi tal ? (10 marks)

1.5. Outline the immediate supportive care. (20 marks)

2. A term non asphyxiated infant delivered vaginally by vacuum extraction due to prolonged labour was noted to be tachypnoeic at 4 hours of age and is transferred to special care baby unit at 12 hours. She is the first born to non consanguineous parents. Except for a febrile illness of three days during the first trimester, antenatal period was uneventful. Birth weight was 3 kg and vitamin K was given soon after birth.

On admission to SCBU, baby is severely pale, afebrile and not jaundiced. There is no cephalhaematoma or other external injuries. Two haemangiomata 2 x 2 cm are present on back of chest. Respiratory rate 70/min, air entry equal and lungs clear. Rest of the examination is normal. Oxygen saturation remains > 92% in air.

Hb	-	3.5g/dl
WBC	-	10.000/cmm, N 60%, L 35%, E- 5%
Platelet count	-	260,000/cumm
Baby's blood group	-	B positive

2.1. Mention four important steps in the immediate management.(30 marks)

2.2. Write three mechanisms you would consider in differential diagnosis giving two examples for each. (30 marks)

After initial management baby was stable at 48 hours. At 72 hours of age, there was bleeding per rectum which was profuse at the start and mild intermittent bleeding continued for a further 48 hours. There was no excessive bleeding from venepuncture sites. There was no abdominal distension or vomiting. Respiratory rate was 72lmin. Liver was enlarged 2 cm below costal margin and was tender.

Investigations at 72 hours of age showed

Hb	-	9g/dl
Reticulocyte count	-	2%
Blood picture	-	Normocytic normochromic red cells WBC normal, platelets adequate
Prothrombin time	-	15 sec. (control 13)
INR	-	1
SGPT	-	10 IU/L
SGOT	-	30 IU/L

2.3. What is the most likely diagnosis ? (10 marks)

2.4. Write two investigations to confirm your diagnosis. (10 marks)

2.5. List four steps in further management. (20 marks)

3. A 3 month old previously well exclusively breast fed baby boy was admitted with a history of profuse watery diarrhoea for 5 days and vomiting for past 12 hours. Mild fever was noted on the first day of illness. On examination his weight is 5.5 Kg and he is severely dehydrated. Pulse *100Imin* and BP *85/55,* capillary refill time is < 2 secs .

Investigations

Serum Sodium	124 mmol/L
Serum Potassium	3.5 mmol/L
Blood urea	10 mmol/L
Stool smear	no pus cells or red cells, no organisms
Stools for Rota virus	positive

3.1. Write the fluid management of this baby in the first 12 hours.(15 marks)

3.2. What is the electrolyte composition of the WHO "improved oral rehydration solution" (10 marks)

His fever settled but watery diarrhoea continued during the stay in hospital for further 8 - 10 days.

3.3. What other clinical features would you look for in this baby at this stage ? (10 marks)

Subsequent investigations revealed

Stool Culture- No growth
Stools reducing substances - orange
Stools electrolytes- Na- 30 mmol/L, K- 30 mmol/L
Stools osmolality 400 mOsml/L

3.4. What is the pathophysiological basis for the above abnormalities and the continuing diarrhea ? (20 marks)

3.5. List five steps in the clinical management at this stage. (25 marks)

Three weeks after admission he continued to have profuse watery diarrhoea. His weight reduced to 4.5 Kg He also developed a low grade fever and was started on cefotaxime after blood culture. In spite of treatment for further 72 hours he continued to have profuse diarrhoea

WBC	-	2,000/mm^3 , N- 35%, L 63%
Blood culture	-	no growth

3.6. List three steps in the management at this stage. (10 marks)

3.7. Write briefly on (not more than 4 lines) about Rota virus vaccine currently available in Sri Lanka. (10 marks)

4. A baby boy born at term at Kegalle Hospital was diagnosed to have bilateral hydronephrosis on antenatal ultrasound scan.

4.1. List the possible underlying abnonl1alities (except the condition given below) that could give rise to the ultrasound scan findings in this baby. (10 marks)

4.2. Outline the important steps in the postnatal management of this baby. (10 marks)

At 3 weeks of age the baby is diagnosed to have a posterior urethral valve and undergoes ablation and vesicostomy at the Lady Ridgeway Hospital for Children. The baby develops high fever on the first post operative day. As the fever continues despite antibiotic therapy he is transfened to a medical unit the following day.

On anival at the medical unit the baby has a temperature of 1 02°P, is severely dehydrated but not in shock and is not interested in feeding even though he is alert. The vesicostomy is draining satisfactorily.

On examination

Weight	3.1 kg (birth weight 3.2 kg)
Heart rate	120/min
Respiratory rate	50/min
Blood pressure systolic	80 mmHg

There were no other abnonnalities detected.

Investigations

Serum Na	120 mmpl/l
Serum K	5.2 mmol/l
WBC	32,000/mm^3 N 80%, L 12%, E 6%
Blood urea	15.7 mmol/l (ref. range 1.5 – 3.0)
Serum creatinine	60 µmol/l (<44umol/l)
Arterial blood gas	pH 7.28
	PCO_2 20.5 mmHg
	PO_2 140.4 mmHg
	HCO_3 10.3 mmol/l
	BE -15.8 mmol/L
Urine culture	> 10^5 coliform species

4.3. List three complications that this baby has developed. (10 marks)

4.4. Explain the pathophysiological basis for the biochemical abnormalities Detected. (20 marks)

4.5. List five important aspects in the management of this baby in the next 24 hours. (20 marks)

Following successful management of the acute problems the baby is found to have a creatinine clearance of 40 ml/mt/1.73m^2.

4.6. List the important aspects in the long term management of this baby. (30 marks)

5. An 8 year old boy was found to be unresponsive in the morning and was admitted to the Lady Ridgeway Hospital *for* Children. He has been having fever and headache for the last three days and had been treated with paracetamol 500 mg three times a day. Two weeks ago he has had viral gastroenteritis which resolved without medication. He has been otherwise well. There is no history of trauma and all EPI vaccinations including the Japanese Encephalitis have been given.

On examination he responds to commands but is drowsy, initable and there is ptosis of the left eye. Pupils are equal and reacting to light. There is mild neck stiffness. He is unable to move the left leg. Tendon reflexes are brisk in all *four* limbs and plantar reflexes are extensor. Ear, nose, throat are normal. Pulse rate is 70/min, respiratory rate is 20/min and lungs are clear. Abdominal examination reveals a palpable bladder.

5.1. Mention four likely diagnoses. (20 marks)

5.2 List two other important bed side examinations. (10 marks)

5.3. List three investigations which will help to arrive at a diagnosis. (15 marks)

5.4. Describe specific abnormalities you look for in each investigation mentioned in 5.3. (15 marks)

5 Give five steps in the management at this stage. (20 marks)

5.6. List five aspects you would monitor in this child. (10 marks)

Over the next 24 hours the child deteriorates neurologically and the Glasgow Coma Scale is 8. He develops a generalized convulsion which lasts one minute.

5.7. List three further steps you would consider in your management now. (10 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY/AUGUST 2008

Date: 21st July 2008 Time: 9.00 a.m. -12.00 noon

PAPER I – STRUCTTIRED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q.1.

1.1 Outline the clinical manifestations of chronic kidney disease in children. (30 marks)

1.2 Discuss the pathogenesis of anaemia in this condition. (30 marks)

1.3 Describe the principles of management in delaying the progression to end stage renal failure in such a child. (40 marks)

Q2.

2.1 List the clinical manifestations of pectus excavatum. (20 marks)

2.2 Name four (04) other skeletal disorders that can influence pulmonary function. (20 marks)

2.3 Name three (03) acute and three (03) insidious onset neuromuscular disorders with pulmonary consequences. (30 marks)

2.4 Describe how you would assess pulmonary involvement in the conditions mentioned in 2.3. (30 marks)

Q.3.

3.1 Define "special educational needs". (10 marks)

3.2 List five (05) conditions for which a child would require special education (10 marks)

3.3 Such a child requires school admission. State ten (10) important aspects you would mention in writing a medical report to the Department of Education. (50 marks)

3.4 Compare and contrast the social welfare benefits available to children who have a chronic medical disorder or disability in Sri Lanka to that of a developed country. (30 marks)

Q.4.

4.1 Describe giving examples familial or genetic disorders which predispose to malignancies in children (40 marks)

4.2 What are the late sequelae of treatment of acute lymphoblastic leukaemia in children. What measures have been taken recently to minimize these sequealae. (60 marks)

Q.5.

5.1 Define bronchopulmonary dysplasia (BPD). (20 marks)

5.2 Briefly outline its pathogenensis and risk factors. (30 marks)

5.3 List the factors that contribute to "blue spells" in this condition. (15 marks)

5.4 Briefly describe the principles of management of BPD. (35 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) PART II EXAMINATION
JULY/AUGUST 2008

Date: 22nd July 2008 Time: 9.00 a.m.-12.00 noon

PAPER II - CASE HISTORIES

Answer ALL FIVE questions.
Answer each question in a separate book.

1. R.P., a 15 year old (date of birth 26.5.1993) girl is referred to the paediatrician on 28 June 2008, by the Judicial Medical Officer (JMO). She had come to the attention of the police by an anonymous call given to the police emergency line 119.
The police had gone to the house and found her living with her mother's male partner (30 years) and her younger sister aged 4 years. R.P., was noted to be pregnant and the police had brought the two girls to the JMO for necessary action.

R.P.'s father had left the family when she was 5 years old. She and her mother had lived with the maternal grandmother thereafter. She had attended school at the time. Five years later the mother started living with another man. They were not legally married. The mother had had her 2nd child a year later. R.P., who was 12 years at the time, had been kept at home without attending school, to look after her step-sister as the mother was going to work. R.P., had also worked in a neighbourhood house as a domestic help in the afternoons to supplement the mother's income.
As the family had financial problems the mother had decided to go abroad two years ago. She had left the two children in the care of the maternal grandmother and her partner. One year ago the partner had forcibly taken the two children away from the grandmother's house. Although the grandmother had made a police entry the children had not been found.

R.P., says that she performed the household duties of her mother as the mother was away. She states that she had married the mother's partner six moths ago at the Registrar's office. On assessment R.P. is found to be 8 months pregnant. Following the delivery she plans to continue to live with her husband and look after the newborn child and her younger sister.
The grandmother is traced by the police and she comes to the hospital.

1.1 List the medico-legal issues in this case. (40 marks)

1.2 Briefly discuss the management of this scenario. (60 marks)

2. A 12 month old girl was admitted to a paediatric ward in a teaching hospital for investigation of failure to thrive.

She was the 3rd child of a 30 year old mother born by spontaneous vaginal delivery at 38 weeks with a birth weight of 2.8 kg (25^{th} centile). She was exclusively breast fed and her initial growth was within normal range; however at 5 months concerns arose regarding her weight gain and she was weaned on the advice of her GP to increase her calorie intake. This made no difference even after 4 months despite her feeding well and she continued to drop off weight centiles and growth arrest in respect to her length. History was unremarkable except for recent constipation with no recurrent infections, cough, diarrhoea or vomiting. There were no neurodevelopmental concerns and her older siblings were well.

Investigations performed by her GP at 9 months of age showed a normal full blood count, thyroid function, urea & electrolytes. Urine culture was sterile.

Blood results on admission

Hb 11.5g/dL (11-14)
Total WBC 12400 (4000-14000)
Platelet count 450000 (150000-450000
Creatinine 60 µmol/L (25-67)
Urea 7.6 mmol/L (2.5-8)
Sodium 144 mmol/L (134-144)
Potassium 3.2 mmol/L(3.5-5.1)
Bilirubin 7 µmol/l (3-20)
Albumin 40 g/dL (35-50)
ALT 35 lU/L (10-50)
Alkaline phosphatase 1070 lU/L (104-245)
Corrected calcium 2.73 mmollL (2.12-2.55)
Phosphate 1 mmol/L (1.3-2)

While initially stable she deteriorated 5 days after admission with fever, diarrhoea and vomiting and was thought to be a bout of acute gastroenteritis. She was estimated to be 15 % dehydrated.

The following results were available.

Hb 13.1g/dL
Total WBC 12700
Platelet count 405000
Creatinine 81mol/L
Urea 11.1 mmol/L

Sodium 134 mmol/L
Potassium 2.5 mmol/L
Chloride 120 mmol/L (96-110)
Blood pH 7.15 (7.35-7.45) pC02 9.6 mmHg (32-45)
Bicarbonate 7 mmol/L (18-25)
Urine analysis - Proteins +++, Reducing substances ++
Urine mucopolysacharide screen - negative
x- rays of both upper & lower limbs- osteopenic bones with frayed metaphyses
Karyotype 46 XX

2.1 Mention the immediate fluid management of this child. (15 marks)

2.2 Calculate and comment on the anion gap. (10 marks)

2.3 What is the most likely diagnosis? Give reasons for your answer. (30 marks)

2.4 Outline the steps in the further management (investigations and treatment) of this girl. (45 marks)

3. A 28 year old primi gravida was admitted at 37 weeks gestation with a history of severe bleeding per vagina and reduced fetal movements. An emergency caesarean section was done for placental abruption and a severely asphyxiated baby boy weighing 2.5 kg was delivered .He was resuscitated with bag and mask ventilation " and cardiac compressions. Apgar score was 1 at 1 min, 3 at 5 min and 4 at 10 min.
He was immediately admitted to the NICU and was intubated and connected to a ventilator .

3.1 Mention the ventilatory settings you would select ? (10 marks)

Arterial blood gas at one hour of age showed

pH 7.13, $PaC0_2$19.9 mmHg, Pa O_2 183 mmHg, BE -21.3 mmol/l
SBE -20.9 mmol/l, $HC0_3$ 6.3 mmol/l, $TC0_2$ 6.9 mmol/l, $Sa0_2$ 98 %

3.2.1. Comment on the results. (10 marks)

3.2.2 Outline the pathophysiological changes responsible for the above findings. (20 marks)

3.2.3 Mention three (03) interventions you would undertake. (15 marks)

Despite the corrective measures taken and a pulse oxymeter reading of 92% the baby looked mottled. The capillary refill time was 5 seconds.

3.3 What is the most appropriate action you would take? (15 marks)

At 5 hours of age an arterial blood gas was done.
pH 7.4, $PaC0_2$ 28 mmHg, $Pa0_2$ 165 mmHg, BE - 7.3 mmol/l, SBE -9.3 mmol/l, $HC0_3$ 14.1 mmol/l, $TC0_2$ 15.8 mmol/l, $Sa0_2$ 93%

3.4 Mention the next step that you would take. (10 marks)

At 11 hours of age he developed a tonic clonic convulsion which lasted for 4 min.

3.5 Enumerate the immediate plan of management. (20 marks)

4. A two year old boy who was previously well was admitted to a provincial hospital with high fever and loose motions of two days duration. Stools initially were watery and became mucoid with a tinge of blood. On admission he was not dehydrated.
On the second day he developed severe abdominal pain and vomited three times and in the last occasion it was slightly blood stained. The abdomen was distended and the liver and spleen were not palpable. Parental fluids and broad spectrum antibiotics were started. Oral rehydration fluid was started as vomiting stopped.

On the fifth day, as the child developed puffiness of face, the oral rehydration fluid was discontinued. In spite of that the puffiness remained the same. As fever spikes and diarrhoea continued and the condition deteriorated he was transferred to Lady Ridgeway Hospital. On admission, temperature was 101°F, pulse 110 per minute.

The child was conscious, ill looking and not dehydrated.

4.1.1 List two important symptoms you would elicit from the history. (10 marks)

4.1.2 Mention three (03) significant physical signs this patient may have. (15 marks)

4.1.3 What is the complete diagnosis ? (10 marks)

4.1.4 Mention two aetiological agents that would cause this condition. (10 marks)

4.1.5 Mention three (03) investigations that would be helpful to diagnose this condition. (15 marks)

4.1.6 What important intervention may be necessary in the management of this patient ? (10 marks)

Diarrhoea settled with antibiotics for four days and patient again started to have profuse watery diarrhea with abdominal cramps and fever. Stools for reducing substances were negative.

4.2.1 Explain this new development. (10 marks)

4.2.2 List two investigations to confirm this condition. (10 marks)

4.2.3 State two drugs that could be used in this condition. (10 marks)

5. Janith was born by normal vaginal delivery at term weighing 2.9 kg and received no active resuscitation. He is the 3rd child of ~ealthy parents and he was successfully breast fed. His mother sought advice in the 2nd week of life because of ongoing jaundice. She was reassured.

At 5 weeks of age he was admitted to hospital with a 1 day history of bruising his back, bleeding gums, pallor and poor feeding

On examination he appeared pale, jaundiced and shocked.

5.1 List the relevant questions you would ask and mention the important information that you would seek from other sources. (10 marks)

5.2 List the relevant examination findings you would look for. (10 marks)

5.3 List the initial investigations you would request and indicate the expected results for each. (20 marks)

Despite being given several boluses of crystalloid, FFP and administering broad spectrum antibiotics lanith becomes more unstable and is intubated and ventilated.

A chest X-ray confirms adequate endotracheal tube placement but a large mediastinal mass is seen. Blood gases are normal. A CT scan of the chest reveals a large intra-thymic haemorrhage.

5.4 What is the differential diagnosis ? (20 marks)

5.5 What further investigations need to be considered once Janith is stable to confirm the diagnosis? (20 marks)

5.6 Outline the further management. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JANAARY / FEBRUARY 2009

Data : 26th January 2009 Time : 9.00 a.m.-12.00 noon

PAPER 1 – STRUCTURED ESSAY QUESTIONS

Answer ALL FIVE questions
Answer each question in a separate book.

Q.1

1.1. Define early and late onset neonatal sepsis. (20 marks)

1.2. List important pathogens responsible for early and late onset neonatal sepsis (five in each category). (20 marks)

1.3. Briefly outline the risk factors in the causation of early and late onset sepsis. (20 marks)

1.4. Describe the measures designed to minimize cross infections In a neonatal intensive care unit. (40 marks)

Q.2

2.1. Discuss the role of micronutrients (excluding vitamins) in paediatric nutrition. (40 marks)

2.2. Describe the clinical manifestations of the 3 most important and common micronutrient deficiencies (excluding vitamins) in children. (60 marks)

Q.3

3.1. Briefly discuss the diagnostic approach to limping in childhood. (60 marks)

3.2. Describe the features of syndromes associated with absence of the radius. (40 marks)

Q.4

4.1. Discuss the current theories that have been put forward to explain the aetiology of autism. (20 marks)

4.2. Outline the features in the history and examination of a 2 year old child That would make you consider a diagnosis of autism. (50 marks)

4.3. Describe briefly the principles of management of a 2 year old child Diagnosed as having autism. (30 marks)

Q.5.

5.1. Briefly describe the development of the mechanisms of pain perception in the fetus. (20 marks)

5.2. List ten parameters used in the assessment of pain in the newborn. (20 marks)

5.3. What are the neonatal stress responses to pain ? (30 marks)

5.4. Briefly describe conscious sedation in children. (20 marks)

5.5. Mention five medications used for conscious sedation in children and their routes of administration. (10 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JANAARY / FEBRUARY 2009

Data : 27th January 2009 Time : 9.00 a.m.-12.00 noon

PAPER 11 – CASE HISTORIES

Answer ALL FIVE questions
Answer each question in a separate book.

1. You are called to attend an emergency Caesarian section performed due to foetal distress. The mother is a 28 year old primi gravida with a period of amenorrhoea of 40 weeks + 1 day. She went into spontaneous labour and foetal distress was detected during the first stage of labour.

   Thick meconium was detected at the time of cesarean section and baby did not cry at birth. His heart rate was 30 per min. He was floppy and cyanosed.

   1.1. Outline the important steps in resuscitating this baby. (25 marks)

   Baby was resuscitated and spontaneous breathing was present by 10 minutes of life. But there was significant respiratory distress and persistent cyanosis. He was ventilated with the following settings.

Mode	-	continuous mandatory ventilation (CMV)
PIP	-	25 mmHg
PEEP	-	6 mmHg
FiO_2	-	80 %
Rate	-	50 / min
Inspiratory time	-	0.65 s

   1.2. Comment on these settings. (30 marks)

Certain changes were made to the ventilator settings but baby remained cyanosed. Arterial blood gas analysis done from the umbilical artery showed the following results.

pH	-	7.2
PCO_2	-	62 mmHg
PO_2	-	40 mmHg
HCO_3	-	18 mm/d mmol/dl
BE	-	(-8)

An arterial blood gas analysis done from the right radial artery few minutes later, showed the following results.

pH	-	7.25
PCO_2	-	58 mmHg
PO_2	-	62 mmHg
HCO_3	-	20 mm/d mmol/dl
BE	-	(-6)

1.3. What condition is suggested by the blood gas results ? (15 marks)

1.4. List three steps in the immediate management. (30 marks)

2. A 12 year old girl with Nephrotic Syndrome is admitted with puffiness of face and albuminuria. She was first diagnosed to have Nephrotic Syndrome 6 weeks ago and was treated with daily steroids for 4 weeks and was on every other day steroids when the symptoms re-appeared. On examination she was noted to have a purpuric rash over the legs, facial puffiness and mild ascites. The BP was 140/90. She was restarted on daily predisolone 60/m^2/day and nifedipine 10 mg three times a day. Her oedema subsided but the ward urine albumin continued to be ++ in spite of daily predisolone for further 3 weeks. Her BP continued to be 140/90.

At this stage the results of her investigations are as follows –

WBC/DC	-	12000/cmm, N - 30% L – 55% E – 15%
Bb	-	12.5 g/dl
Platelet count	-	260,000/mm^3
ESR	-	84 mm – 1st hr
Haematocrit	-	60%
Urine analysis	-	SG – 1.008, Pus cells 4 – 6/hpf, Red cells – 10 – 15/hpf
Urine Na	-	50 mEq/L
Urine creatinine	-	1200 µm/L
Serum creatinine	-	140 µm/L (44-88 µm/L)
ANF	-	Negative
S. electrolytes	-	Na -140 mmol/L, K – 5.9 mmol/L
Chest X ray	-	Normal

In spite of treatment she continued to have proteinuria. She developed fever with severe vomiting and deteriorated suddenly with a right sided convulsion followed by right sided paresis. She was noted to have a few painful palpable nodules over the forearm.

2.1. List two possible causes for the neurological manifestations ? (20 marks)

2.2. List 5 other investigations you would consider at this stage to arrive at a Definitive underlying aetiological diagnosis. (20 marks)

2.3. Calculate the Fractional excretion of Na and what do you infer from the results. (20 marks)

2.4. List 5 steps in the immediate management. (15 marks)

3. A one month old baby girl presented with a history of irritability, excessive crying and poor feeding over the last 05 days. She has been afebrile through out the illness and has not had any alterations in stools and urine. Prior to this admission the baby has been well.

She is the third child of unrelated parents. The birth was at term, following an emergency LSCS for prolonged second stage. The birth weight was 3.5 Kg. As there were no concerns the baby was discharged home on the 3rd day.

Her parents are labourers and the other two siblings are on long term medications. One of the siblings needed eye surgery and the other older girl is under investigation for delayed puberty.

On examination her weight was 4.4 Kg and she was irritable with a body temperature of 37^0C. There was no dysmorphism. The anterior fontanelle was bulging. Peripheral circulation was good and the heart rate was 100/min. Fundi were congested and disc margins were blurred. Rest of the examination was normal. Within 10 minutes of admission she developed repeated convulsions and was transferred to the intensive care unit for further care.

Following are the results of her investigations

WBC	-	10 x 10^9/l, N -44%, L – 56%	
Platelet count	-	300 x 10^9/mm^3	
Hb	-	13.5 g/dl	
Blood sugar	-	3.4 mmol/L	
CRP	-	3.8 mg/L	
Blood culture	-	Sterile	
Sodium	-	118 mmol/L	
Potassium	-	2.4 mmol/L	
Blood urea	-	2.0 mmol/L	(1.8 – 6.4 mmol/L)
Serum creatinine	-	20 micromol/L	(18 – 5 micromolL)
Serum calcium	-	1 mmol/l	(2.2 – 2.7 mmol)
Ionized calcium	-	0.7 mmol/L	(1.12 - .23 mmol/L)
Bllod pH	-	7.35	
PCO_2	-	42 mmHg	
PO_2	-	105 mmHg	
Base excess	-	-5 mmol/L	
Total bilirubin	-	35 micromol/L	
SGOT	-	28 U/L	
SGPT	-	35 mmol/L	

Ultra sound scan of brain revealed mildly dilated ventricular system And cerebral oedema. No intra cranial haemorrhages were noted.

3.1 State the complete diagnosis of this acute presentation. (10 marks)

3.2. List 05 investigations which are important for the immediate Management of this patient. (20 marks)

3.3. List the principles of management of the acute condition. (40 marks)

3.4. List the important steps in the long term management of this Child. (30 marks)

4. A 5 year old girl admitted to the casualty paediatric unit with a History of abdominal distension, vague abdominal pain and poor appetite of 6 weeks duration. On examination the child was pale, wasted and oedematous. Her height was well below the 3rd centile and the weight was on 3rd centile. Abdominal examination revealed ascites. Urine ward test showed no proteins.

Her investigations revealed

Hb	-	8 g/dl
WBCDC	-	4200/mm^3 N - 80, L - 16, E – 4
Platelets	-	250,000/cumm
SGOT	-	16 IU/L
SGPT	-	15 IU/I
Serum creatinine	-	0.6 mg/dl (0.3 – 0.7 mg/dl)
Serum protein	-	4 g/dl
Albumin	-	1.5 g/dl
Globulin	-	2.5 g/dl

4.1. Give four conditions which you would consider in your differential diagnosis. (30 marks)

4.2. List 8 other clinical features (history and examination) you would look for. (30 marks)

4.3. What other investigations would you perform in order to arrive At the diagnosis ? Mention the expected results. (40 marks)

5. A five month old infant was brought with a history of listlessness and irritability. He is the third child of unrelated parents and was born by a normal vaginal delivery at term in a peripheral hospital. There is no history of any significant perinatal insult. His birth weight was 2.9 Kg and he was discharged home on the following day.

The baby has been exclusively breast fed and there had been no feeding difficulties.

His developmental age is about 03 months.

On examination his weight was 4.2 Kg and it was below the 3rd centile while the head circumference and length were on the 50th centile. He was floppy and pale. Rest of the examination was normal.

Investigations :-

Hb	-	05g/dL
WBC/DC	-	2×10^9/L N - 30% L - 64% E - 6%
Platelet count	-	100×10^9/L
MCV	-	98 fl (70 – 86 fl)
MCH	-	30 (25 – 35 pg/ cell)
MCHC	-	32 (30 – 36 g Hb/dl RBC)

5.1. What is the complete haematological abnormality seen in this Child ? (20 marks)

5.2. What further information would you elicit in the history (30 marks)

5.3. List 06 investigations which will be useful to confirm the diagnosis and identify the underline aetiology giving the expected results. (30 marks)

5.4. List 4 steps in the management. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JULY / AUGUST 2009

Date : 20th July 2009 Time : 9.00 a.m.-12.00 noon

PAPER 1 – STRUCTURED ESSAY QUESTIONS

Answer all five questions
Answer each question in a separate book.

Q.1.

1.1. Write what you understand by the term 'probiotic'. (15 marks)

1.2. Enumerate four mechanisms of action of probiotics. (20 marks0

1.3. List five clinical conditions where probiotics are effective. (15 marks)

1.4. Describe the features that would favour a diagnosis of cow milk protein intolerance in an infant. (20 marks)

1.5. Describe how the diagnosis of cow milk protein intolerance could be confirmed in an infant and outline its treatment. (30 marks)

Q.2.

2.1. Describe medical device related infections encountered in paediatric practice. (30 marks)

2.2.

(a). Enumerate the causes of severe neutropaenia in an infant. (30 marks)

(b). Define "febrile neutropaenia" and outline the management of a 5 year old with this condition. (40 marks)

Q.3.

3.1. Describe how you would confirm the presence of pathologically significant haematuria and its site of origin. (30 marks)

3.2. Describe briefly syndromes associated with Wilms tumour. (30 marks)

3.3. Mention giving examples, renal diseases caused by nephrotoxins. (40 marks)

Q.4.

4.1. Briefly outline the pathophysiology of Respiratory Distress Syndrome (RDS) of the newborn. (25 marks)

4.2.

(a). Name the aetiological agent of the viral disease that is currently causing a pandemic. (10 marks0

(b). Under what circumstances would you suspect the above infection in a child. (20 marks)

(c). Outline the steps in the management of a child suspected to have this infection. (25 marks).

4.3. Name four other newly emerged viruses that are known to cause respiratory illness in children. (20 marks)

Q.5

5.1. Discuss briefly the potential impact of armed conflict and displacement on health of children aged 0 – 18 years. (80 marks)

5.2. Name four ready-to-use therapeutic foods that are currently supplied by UNICEF for treatment of severe acute malnutrition. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JULY / AUGUST 2009

Date : 21st July 2009 Time: 9.00 a.m.-12.00 noon

PAPER II – CASE HISTORIES

Answer all five questions.
Answer each question in a separate book.

1. A 3 month old baby boy is transferred from a peripheral unit for assessment of chronic watery diarrhoea. He is the firstborn of non consanguineous parents. Antenatal period had been uneventful and ultrasonographic assessment showed no polyhydramnios. He was delivered by a normal vaginal delivery, weighed 2.75 kg and was discharged on the second day.

Mother noted that the stool consistency was watery at the age of 1 month. Her General Practitioner advised her to continue breast feeding but stopped her from taking milk or any dairy products. She followed this advice but the diarrhea worsened and became like "rice kanjee". Stool frequency increased and consistency became more watery. Nappies needed to be changed every 2 hours.

He was admitted to the local base hospital with severe dehydration and needed intravenous fluid resuscitation. He was prescribed intravenous gentamicin and a special milk formula. Mother was told to stop breast feeding because the baby may have "sugar intolerance" Despite the special formula the diarrhea persisted and was unchanged. He was referred to a tertiary care hospital. As the senior registrar on-call you are called to see this baby who is severely dehydrated on admission.

1.1. Describe how you would manage his severe dehydration ?

(15 marks)

On subsequent assessment the weight is 3.4 kg (below the 3rd centile), length 58 cm (10th centile) and head circumference 39 cm (10th centile). There is marked wasting of muscles with hardly any subcuraneous fat. There are no skin rashes or perianal excoriation. Cardiovascular and respiratory systems are clinically normal. Abdomen was slightly distended. There is no head control.

Following investigations were available.

Na^+	118 mmol/L
Cl^-	96 mmol/L
K^+	1.9 mmol/L
Urea	68 mg/dL
Arterial blood gas	
pH	7.2
PaO_2	96 mmHg
$PaCo_2$	20 mmHg
BE	-15
HCO_3	12 mmol/L
Hb	10.3 g/dL
WBC Total 9600	
Neutrophils	35 %
Lymphocytes	60 %
Eosinophils	5 %
CRP	1.5 mg/L (normal < 6)
SGPT	26 iu/L
SGOT	14 iu/L
Serum Proteins	
Albumin	6g/L
Globulin	2g/L
Stool sugar	blue

1.2. Describe how you would correct his metabolic abnormalities. (20 marks)

1.3. List 4 possible differential diagnoses. (20 marks)

1.4. Discuss investigations, giving expected results, that would help you to arrive at a diagnosis. (45 marks)

2. A 7 year old boy presents with swelling of face of 3 weeks duration. He is a patient with a complex cyanotic congenital heart disease whose growth had been suboptimal and schooling disrupted by the illness. He has also had recurrent respiratory tract infections during this period. He underwent right subclavian to right pulmonary artery shunt surgery 8 months back. Shunt surgery improved his oxygen saturation from 70% - 75% before surgery to 88% - 92%. He was prescribed several long term medications which included captopril and frusemide. He has been relatively well after surgery.
Over the last 3 weeks parents noticed swelling of his face which gradually increased. This was worse in the morning and became better during the day. He was also more dyspnoeic during this period. There was no fever, cough, diarrhea, or urinary symptoms.

On examination the child had a bloated face with dilated veins on the scalp and the upper neck. There was conjunctival chemosis. The swelling involved the entire face and neck including both parotid regions. There was a bluish appearance on the face. He was also plethoric. There was no peripheral cyanosis, pedal or sacral oedema. Both legs were thin and wasted. Respiratory rate was 40/min and the rest of the respiratory system examination was normal. Abdomen was distended with a 2 cm liver which was not tender. Spleen was not palpable.

The precordial examination revealed an ejection systolic murmur with normal heart sounds. The shunt murmur was heard over the right side of the chest.

Ophthalmoscopy revealed congested retinal veins with no papilloedema. Rest of the neurological examination was normal.
Following investigations were performed.

Hb	20g/dl
PCV	60%
WCC	8400
Neutrophils	60%
Lymphocytes	40%
Blood urea	5mmol/l
Sodium	140mmol/l

Potassium	4.0mmol/l
SGOT	Normal
SGPT	Normal
Serum proteins	Normal
Prothombin time	15 seconds
Control	13 seconds
INR	1.3

Ultra sound scan of abdomen was normal except for hepatomegaly.

Chest radiograph showed massive cardiomegaly and pulmonary plethora.

2.1. Give the most likely diagnosis and mention the underlying pathological reason. (30 marks)

2.2. Mention two investigations to confirm the diagnosis. (20 marks)

2.3. Discuss the predisposing factors which could have contributed to this condition. (30 marks)

2.4. What are the treatment options available for this condition ? (20 marks)

3. An eleven year old boy was referred to a tertiary care hospital for further management of his initial episode of nephritic syndrome. He is from the Northern province of Sri Lanka. He was treated with prednisolone 60mg/m^2/day for 6 weeks but nephrotic range proteinuria (2.43mg/mmol) continued. He was oedematous, serum albumin was 12g/l and had a urine out put of 0.3ml/kg/hour. He had persistent hypertension and with antihypertensive therapy his BP was 130/80. His HBsAg, ANA and complement assay wwere normal. He underwent renal biopsy which showed focal and segmental glomerulosclerosis. Hence he was commenced on three pulses of methyl prednisolone at 600mg/m^2 daily and monthly pulses of intravenous cyclophosphamide at 600mg/m^2. Oral corticosteroid therapy was continued at 60mg/m^2 on alternate day for 4 weeks and tapering at 10mg/m^2 monthly. Oedema was initially controlled with the use of diuretics and after the second pulse of cyclophosphamide he finally entered complete remission. After being in remission for 5 days he was ready to be discharged. However on the day of discharge he became unwell with coughing and vomiting. He was commenced on intravenous fluids and the chest X ray showed opacities of the right lung. He was then started on intravenous cefuroxime. However his clinical condition deteriorated and the chest X ray done 3 days later demonstrated complete opacification of the right lung. He was commenced on intravenous Meropenam and Vancomycin and transferred to the Intensive Care Unit for respiratory support. In spite of therapy he died 7 days later.

3.1. Give two possible causes for the above deterioration mentioning the most likely diagnosis. (30 marks)

3.2. List the investigations that you will perform to confirm your diagnosis. (30 marks)

3.3. Explain the pathogenesis and treatment of the most likely diagnosis. (40 marks)

4. An Unconscious 3 year old is admitted following a 6 day history of fever and a runny nose. A general practitioner had treated him with two kinds of white tablets. His mother had also given him 2 teaspoonfuls of syrup Paracetamol 6 hourly during the past 5 days. He had been listless, inactive and had complained of abdominal pain on and off during this period. There was no cough, vomiting dysuria or bleeding manifestations.

On the morning of the day of admission he had vomited several times and had complained of abdominal pain. There was no blood in the vomitus. The child got progressively drowsy with difficulty in breathing and therefore was admitted to hospital.

He had been a reasonably healthy boy and the Child Health Development Record which had been maintained up to 2 years showed the weight between the mean and -1 SD line. During the previous 6 months or so his mother had noticed that he had a voracious appetite. He was also rather irritable which the mother attributed to lack of sleep as he had been getting up several times in the night to pass urine. They live in an area heavily infested with mosquitoes and several children and adults living in the neighbourhood have had "flu" during the past month.

You find a wasted , unconscious child weighing 10.5 kg with some dehydration. His temperature is 100.6^0F with no rash or evidence of meningeal irritation. He is tachypnoeic with a respiratory rate of 50/minute with clear lungs. His pulse rate is 110/minute and blood pressure is 80/50 mm Hg with a capillary refill time of < 2 seconds. Abdominal examination is unremarkable except for a 2cm palpable liver.

4.1. Give 3 likely causes for this child's condition. (15 marks)

The following investigations were subsequently available.

Serum electrolytes – Na+	- 135 mEq/l	(135 – 145 mEq/l)
	K+ - 4.7 mEq/l	(3.5 – 5.6 mEq/l)
Blood urea	50 mg/dl	(15 – 40 mg/dl)
Serum creatinine	0.6 mg/dl	(0.2 – 0.9 mg/dl)
ALT (SGPT)	30 u/l	(10 – 40 u/l)

4.2. Mention the most likely diagnosis and give additional information you would elicit (apart from what is given), from the history and examination, to support your diagnosis. (35 marks)

4.3. Mention the most useful preliminary investigation to confirm this diagnosis. (10 marks0

4.4. Briefly outline the principles of management of this child over the next 12 hours bearing in mind your most likely diagnosis. (40 marks)

5. A baby weighing 2.5 kg is delivered by low forceps delivery because of fetal distress. He required resuscitation with bag and mask ventilation, chest compression and intravenous medications (sodium bicarbonate, adrenaline and bolus of dextrose). Apgar scores were 1, 3 and 5 at 1, 5 and 10 minutes respectively.
Twenty minutes after birth the baby was still being hand ventilated and showed no respiratory effort. The heart rate was 160/min and colour was pink with oxygen 4L/min. He was admitted to SCBU for ventilation.

5.1. Write the initial ventilatory settings for this baby. (20 marks)

Arterial blood gas performed at 1 hr of age showed:

pH	7.13
$PaCO_2$	19.9 mmHg
PaO_2	183.1 mmHg
BE	-21.3 mmol/L
HCO_2	6.3 mmol/L
SaO_2	98%

5.2 Write your interpretation of these blood gas results. (10 marks)

5.3. Mention the appropriate steps in management at this point in time. (20 matrks)

5.4. List the clinical parameters you would use to assess improvement, following the interventions mentioned in 5.3. (20 marks)

Repeat arterial blood gas at 4 hours of age showed

pH	7.4
$PaCO_2$	28 mmHg
PaO_2	165.1 mmHg
BE	-7.3 mmol/L
HCO_2	14.1 mmol/L
SaO_2	97%

5.5. What adjustments will you now make in the ventilatory settings ? (10 marks)

At age 8 hours arterial blood gas is repeated. The infant now has spontaneous respiration at a rate of 50/min.

pH	7.39
$PaCO_2$	46.6 mmHg
PaO_2	80.7 mmHg
BE	-6.6 mmol/L
HCO_2	20.1 mmol/L
SaO_2	98%

5.6. Mention two therapeutic options at this point. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JANUARY/FEBRUARY 2010

Date : 20th January 2010 Time : 9.00 a.m.-12.00 noon

PAPER I - STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q.1.

1.1. Enumerate five (05) haematological conditions which result in iron overloading due to regular red cell transfusions. (15 marks)

1.2. Explain briefly the mechanisms of organ toxicity due to transfusion iron overload. (20 marks)

1.3. Briefly discuss the endocrine complications of iron overload. (25 marks)

1.4. Discuss the merits and demerits of investigations available to assess the degree of iron overload. (25 marks)

1.5. Describe the characteristics of an 'ideal" iron chelator. (15 marks)

Q.2.

2.1. Mention the causes of intestinal obstruction in the first year of life. (20 marks)

2.2. Describe the mechanisms by which intestinal obstruction is produced in each of the above conditions. (40 marks)

2.3. Discuss how imaging would help in the diagnosis of an infant with suspected intestinal obstruction. (40 marks)

Q.3

3.1. Define hypernatraemia. (10 marks)

3.2. Mention the three (03) basic mechanisms of causation of hypernatraemia.. (15 marks)

3.3. Give three (03) causes each for the mechanisms you mentioned in 3.2. (20 marks)

3.4. Critically analyse the principles of management of hypernatraemic dehydration. (30 marks)

3.5. Describe the possible consequences of hypernatraemi a in a neonate. (25 marks)

Q.4.

4.1. Describe the clinical situation in which you would consider providing Paediatric Basic Life Support (PBLS). (15 marks)

4.2. Mention the primary aim of Paediatric Basic Life Support (PBLS). (15 marks)

4.3. Write the formula for calculation of weight when providing Paediatric Advanced Life Support (PALS). (10 marks)

4.4. Define the terms "shockable rhythm" and "non-shockable rhythm". (20 marks)

4.5. Describe how you would manage the commoner of the two conditions mentioned in 4.4. as encountered in paediatric practice. (25 marks)

4.6. Name the most important medication used in Paediatric Advanced Life Support and mention the exact details of its administration. (15 marks)

Q.5.

5.1. Discuss the pathophysiology of Persistent Pulmonary Hypertension of the Newborn (PPHN) (25 marks)

5.2. List seven (07) conditions in which PPHN is encountered. (25 marks)

5.3. Describe the methods available for the diagnosis of PPHN (20marks)

5.4. Outline the treatment of PPHN stating the precautions that need to be taken. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JANUARY/FEBRUARY 2010

Date : 21st January 2010 Time : 9.00 a.m.-12.00 noon

PAPER II – CASE HISTORIES

Answer all five questions.
Answer each question in a separate book.

1. A 3 year old girl presented with a history of bluish patches on the body of 5 days duration. On examination she was afebrile and apart from generalized purpura and mild developmental delay no other abnormalities were noted. There was no significant past medical history.

She lives with her mother and 8 year old brother. Her father is employed in a Middle Eastern country for the past 5 years and comes home to Sri Lanka once a year. He sends money monthly and the family is able to live comfortably.

Her height and weight are both on the 10th centile.

Investigation results were :

Haemoglobin	11.5 g/dl
WBC/DC	6×10^9 N 53%, L 43%, E 4%
Platelet count	20×10^9 (150×10^9 - 400×10^9)
C-reactive protein	6 mg/L (up to 6 mg/L)
Blood picture	Normocytic normochromic anaemia with a few hypochromic microcytic red cells. White blood cells are normal. Platelets low. No abnormal cells seen.
Bone marrow	Normal granulocytic and erythrocytic series. Megakaryocytes increased in number with increased budding.

Following conservative management her platelet count increased to 75 x 10^9 and she was discharged. She defaulted follow up in the paediatric clinic.

Over the next 6 months she has had two episodes of epistaxis. The general practitioner had reassured the mother. No further blood tests had been performed.

Seven months after the initial presentation she is re-admitted with a history of intermittent fever, cough and loose stools of four weeks duration. On examination she is irritable and there is a weight loss of 2.5 kg since the last admission. She is pale, has generalized lymphadenopathy, hepatosplenomegaly and bilateral crepitations on auscultation of the lungs. The chest x-ray reveals a bronchopneumonia.

Despite appropriate broad spectrum antibiotics administered intravenously, the bronchopneumonia worsens.

1.1. Briefly discuss how the two presentations could be connected to a single underlying aetiology. (20 marks)

1.2. List the investigations you would request and mention the possible results. (50 marks)

1.3. Outline the principles of management. (30 marks)

2. 12 year old girl is brought to the paediatric clinic with a history of changed behaviour over the last four months. She was a well focused student who had excelled in studies prior to this illness. She is now very irritable excitable and emotionally labile; and has deteriorated in school performance. She has no headache and is not on any medications or hard drugs. She has lost weight despite a good appetite, her sleep is disturbed and there is polyuria.

On examination:

Height - on 50th centile, Weight -on 3rd Gentile'

Well hydrated with excessive sweating and a flushed appearance. She has depigmented skin patches. Pulse rate 120/min, BP 110/60 mmHg. Apex beat is in the 6th intercostal space, lateral to the mid calvicular line. A soft ejection systolic murmur is heard over the apex of the heart. There is a fine tremor with impairment of convergence and tendon reflexes are brisk. Abdomen and respiratory systems are normal.

Investigation fipdings :

WBC	10×10^9	
	N-60%, L-30%, E-5%, M-5%	
Platelet count	300×10^9	
Hb	13.5g/dl	
Fasting blood sugar	5 mmol/L	
C- reactive protein	3.8 mg/L	(<6)
Blood urea	2.0 mmol/L	(1.8 – 6.4)
Serum creatinine	20 μmol/L	(18 – 35)
MRI brain	Normal	
EEG	Normal	
2D Echo	cardiomegaly, ejection fraction 65%	

2.1. State the most likely diagnosis. (15 marks)

2.2. List further physical signs you would look for to support the diagnosis. (20 marks)

2.3. List five (05) investigations that would be useful to confirm your diagnosis. (25 marks)

2.4. Discuss the treatment options available for this child. (40 marks)

3. A 21 day old male infant was brought to the hospital with poor feeding and lethargy of one days duration. He was born by a normal vaginal delivery to a 32 year old primigravid mother at term. He cried soon after birth and was breast fed within 30 minute. Birth Height was 3.0 kg. He had some feeding difficulties during the first 3 days of birth and was referred to the lactation management unit for assistance. He 'was feeding well on discharge on the fourth day. He remained well for 2 weeks. He developed a mild cough on Day 18 and a paediatrician examined the infant and reassured the parents. Weight was 3.4 kg. Two days later, the mother noted poor feeding and lethargy which became worse over the next 12 hours and decided to bring the child to the hospital.

The pregnancy had been normal apart from a febrile illness which lasted for 4 days during the second trimester. This was diagnosed as a primary dengue infection and the illness settled with paracetamol alone. She was not hospitalized. There is no consanguinity.

On examination the infant was hypotonic and skin was mottled. Axillary temperature was 35°C and capillary refill time 2 seconds. He had a weak cry and was lethargic. Peripheral pulses were weak. There was no radio femoral delay. Respiratory rate was 70 per minute. The pulse oxymetry was 82% (right thumb).

3.1. Describe in detail the immediate actions you would take on admission. (40 marks)

The infant was transferred to the neonatal intensive care unit and the condition improved over the next 3 days.

3.2 .. Once the infant is stable, which investigation that would be help in the further management, would you perform ? (10 marks)

3.3. State the interpretation and usefulness of this investigation. (20 marks)

3.4. What is the most likely aetiology for this presentation ? (10 marks)

3.5. Briefly state a procedure that may have prevented this condition. (20 marks)

4. A 3 year old girl was admitted for: treatment of a bronchopneumonia. She was prescribed intravenous crystalline penicillin and intravenous cloxacillin, six hourly. Immediately after the first dose she began to scream with pain. The pain in the right hand continued "despite oral paracetamol and the nurses kept repeatedly calling the intern house officer, who recommended cold compressors and a further dose of paracetamol. The child continued to be in pain and was noticed to keep a pillow pressed over the right forearm on which the cannula was sited just above the lateral aspect of the wrist joint. After the antibiotics were administered for the second time, at 2.00 a.m. the screaming intensified and as the registrar on call, you were called in.

4.1. List two likely causes for the extreme pain the child has. (15 marks)

4.2. Describe how you would assess this clinical situation. (40 marks)

4.3. Name the investigation that would confirm the more serious condition you mentioned in 4.1 (10 marks)

4.4 Describe how you would manage this condition, once the diagnosis is confirmed. (35 marks)

5. A 24 month old boy was brought to casualty in an unresponsive state. He had been well when the mother left for work that morning. He was left in the care of his grandparents and a domestic aid. The child's development was normal and he was not allowed to go out of the house while the mother was away.

The grandfather is 80 years and blind and the grandmother is 69 years and physically healthy: The domestic aid fed the child at 9.30 am and put him to sleep. At 12.30 pm the child was extremely drowsy and could not be fed. She felt it was unusual but allowed the child to sleep. When the mother returned she rushed the child to hospital.

On arrival at the Emergency Treatment Unit at 3.00pm he responded only to pain. Breathing was normal. Heart rate was 180 /min, pulse low volume and blood pressure was 70/50 mmHg. Temperature was normal.

There was no evidence of trauma or abuse externally. Weight and length were on the 50th centile. The child was hypotonic and the tendon reflexes were depressed. Pupils were dilated. Some ventricular ectopic beats were detected on the monitor.

The grandmother is said to be very aggressive, shouting at the child for the slightest mistake and sometimes even for nothing. She has had difficulty in sleeping in the last 3 months

Following investigations were done on arrival at the ETU

Random blood sugar	130 mg/dl	
Serum calcium	2.5 mmol/l	
Blood urea	5 mmol/l	
Serum sodium	140 mmol/l	
Serum potassium	3.5 mmol/l	
C- reactive protein	6 mg/dl	(normal <6mg/dl)
Haemoglobin	14g/dl	
White cell count	9.8 x 10^9	
Platelet count	200 x 10^9	

The ECG showed wide QRS complexes, prolonged QT interval and inverted T waves.

5.1. State the most likely diagnosis, giving reasons. (30 marks)

5.2. Discuss the management in the first 48 hours. (40 marks)

5.3. Outline the long term management. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JULY 2010

Date : 19th July 2010 Time : 9.00 a.m.-12.00 noon

PAPER I - STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q.1. An 08 month old baby girl has been brought to the outpatients department with suspected non accidental injury (NAI). The perpetrator is thought to be the child's mother.

1.1. Describe ten (10) important signs (clinical and radiological) that Would establish the diagnosis of NAI. (30 marks)

1.2. Describe the medico-legal steps that should be taken during your management of this case. (35 marks)

1.3. Briefly describe the roles and responsibilities of the participants of a Case Conference during investigation of a case of NAI in Sri Lanka. (35 marks)

Q.2.

2.1. Define the terms 'food allergy" and 'food intolerance'. (20 marks)

2.2. Mention the different clinical presentations that an infant could develop due to allergy or intolerance to cow milk, specifying the different mechanisms of causation for each presentation. (60 marks)

2.3. List the specific methods of evaluation / investigation you would perform to establish the diagnosis of cow milk protein allergy. (20 marks)

Q.3.

3.1. Define precocious puberty. (10 marks)

3.2. Briefly explain the features of true and pseudo precocious puberty. (40 marks)

3.3. Give four (04) causes of pseudo precocious puberty in girls.(20 marks)

3.4. Mention four (04) different pathological processes that could lead to precocious puberty. (10 marks)

3.5. List four (04) possible causes that could lead to isolated vaginal bleeding in a pre-school girl who does not have secondary sexual characteristics. (20 marks)

Q.4.

4.1. Define the term 'Adverse Event Following Immunization' (AEFI) (20 marks)

4.2. Explain the difference between 'adverse event' and 'adverse reaction' following immunization. (10 marks)

4.3. Describe the clinical features (on history and examination) that will help you to recognize a patient with Hypotonic-Hyporesponsive Episode (HHE). (25 marks)

4.4. Outline your management of an infant in whom you suspect Hypotonic-Hyporesponsive Episode (HHE). (25 marks)

4.5. Mention two (02) components that may be present in EPI vaccines (other than the immunizing agent) that could cause a severe allergic reaction. (20 marks)

Q.5.

5.1. Write three important clinical criteria that are necessary for a diagnosis of obstructive sleep apnoea in a child. (15 marks)

5.2. Briefly describe ten (10) abnormalities that could predispose to this condition. (30 marks)

5.3. List:

(a) five (05) short term and.

(b) five (05) long term sequelae
Of untreated obstructive sleep apnoea. (25 marks)

5.4. Name the investigation that is considered as the 'gold standard" for comfirming the diagnosis of obstructive sleep apnoea.(10 marks)

5.5. Outline the different therapeutic options available for the management of this condition. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
JULY 2010

Date : 20th July 2010 Time : 9.00 a.m.-12.00 noon

PAPER II – CASE HISTORIES

Answer all five questions.
Answer each question in a separate book.

1. A 20 day old baby boy is referred to the paediatric casualty ward by a general practitioner for repeated episodes of cycling movements of limbs and lip smacking of one day duration. The mother states that the baby did not have fever but was irritable during the previous 3 days. The baby had passed urine tree times during the last 24 hours. He was exclusively breast fed for two weeks, but a formula had been introduced on Day 15 as the mother thought the breast milk was inadequate.

   The baby was born at term by elective caesarian section, weighing 2.8 kg. He was the firstborn. Parents were unrelated. Father is a garment factory worker and the couple lives in a boarding house.

   On examination, the baby is irritable, afebrile and has a normal anterior fontanelle. Weight is 2.6 kg and length 50 cm. Capillary refill time is 4 seconds, pulse rate 160 per minute and heart sounds are normal. There is no hepatosplenomegaly.

   Investigations performed by the GP are

C reactive protein	5mg/ml (normal up to 6)
Full blood count	
Hb	16g/dl
PCV	51%
WBC	10.8×10^9/L
	N 52%, L 46%, M 1%, E 1%
Platelet count	160×10^9/L
Serum calcium	2.2 mmol/L (2.2 – 2.7)
Serum phosphate	1.6 mmol/L (1.55 – 2.65)

Immediate investigations performed on admissions are

Capillary blood sugar	5.5 mmol/L (2.8 – 5.0)
Arterial blood gas analysis	
pH	7.33 (7.35 – 7.45)
PO_2	90 mmHg (83 – 108)
PCO_2	35 mmHg (27 – 40)
HCO_3	21 mmol/L (22 – 29)
BE	-8 (-10) – (-2)

1.1. State the most likely condition and its antecedent cause/s that would explain this clinical situation. (20 marks)

1.2. Outline the principles of management of this baby. (40 marks)

1.3. Describe briefly how you would re-establish exclusive breast feeding on this child. (40 marks)

2. A 12 year old boy was admitted with a 4 day history of passing dark reddish brown urine. Three days prior to his admission he had back pain and vomited several times. There was no fever. He had an episode of red-brown urine 10 months ago and the investigations done at that time showed a serum creatinine of 1.0 mg/dl. White cell count, haemoglobin and platelet count were 4,400/mm^3, 12 g/dl and 114,000/mm^3 respectively. Urine culture was sterile and ultra sound scan of KUB was normal. His urine returned top normal colour in two days. He had another episode of dark urine associated with a sore throat a month later.

He was investigated for thrombocytopenia five years ago. Bone marrow done at that time showed hyperplastic marrow and he was given a diagnosis of idiopathic thrombocytopenic purpura. Antiplatelet antibodies were negative. He was treated with prednisolone resulting in some improvement of his platelet count which has been consistently around 120,000/mm^3 to 130,000/mm^3.

The past medical history is otherwise unremarkable and he has no known drug allergies. Currently he is not on any medications, His immunizations are up to date.

Physical examination reveals a normally grown (height and weight between 25^{th} – 75^{th} centiles0, well nourished child with a blood pressure of 110/70mmHg. His clinical examination is unremarkable.

Investigations :

Urine	
Dipstick test	pH 5.0
	Blood +++
	Proteins 200 mg/dl
	Glucose Nil
Microscopy	Red cells 2-4/HPF
	White cells 1-2/HPF
	White cell casts – few
	Red cell casts – nil
	Granular casts ++ (reddish)
Blood urea	28 mg/dl (10 -20)
Serum creatinine	2.90 mg/dl (1 – 1.2)
WBC/DC	4000/mnm^3 N 65%, L 33%, M 2%
Hb	10.8 g/dl
Platelet count	126,000/mm^3
Reticulocyte count	3.4%
Blood picture	Polychromasia and few spherocytes
Serum sodium	135 mEq/l (135 -145)
Serum potassium	3.7 mEq/l (3.5 – 5.0)
Serum chloride	105 mEq/l (98 – 106)
Serum glucose	90 mg/dl
Serum albumin	48 g/dl (40 – 53)

2.1. Mention two (02) possible differential diagnoses (30 marks)

2.2. Write the confirmatory laboratory tests separately **for each** of these two conditions with the expected abnormalities. (50 marks)

2.3. Indicate two (02) important complications that may occur in **each** of these two conditions. (20 marks)

3. An 8 year old girl was admitted with a three day history of fever and vomiting. The parents brought her to the hospital as the child was becoming progressively drowsy.

She is the 3rd born to non-consanguineous parents and had a birth weight of 2.3kg. Other than a few OPD visits for constipation and 2 episodes of vulvo-vaginitis over the past 3 months, she had been relatively well.

The father is a farmer and the mother is a housewife. They are healthy.

On examination she plotted on the 3rd and 10th centile for weight and height respectively. Occipito-frontal circumference was 56 cm. The axillary temperature was 38°C. She was not pale and skin turgor was reduced. The respiratory rate 40/min, pulse rate 120/min. The blood pressure was 90/60. The abdomen was tender in the epigastric area and liver and spleen were not palpable. She was drowsy with Glasgow Coma Scale (GCS) of 12/15. No focal neurological signs or signs of meningeal irritation were noted. Fundoscopy was normal.

The following investigations were performed on admission

WBC/DC	$16x10^9$/L	N-70% L-23% M-4% E-3%
Haemoglobin	14g/dl	
Platelets	$160x10^9$/L	
PCV	44%	
ESR	40 mm 1st hour	
Serum sodium	136 meq/L	(135 – 145)
Serum potassium	4meq/L	(3.5 – 5.0)
Serum chloride	100meq/L	(98 – 106)
Blood urea	84 mg/dl	(07 – 18)
Serum creatinine	0.8 mg/dl	(0.3 – 0.7)
Serum calcium	9 mg/dl	(8.8 – 10.8)
Plasma bicarbonate	12mmol/L	(22 – 29)
Plasma osmolarity	335 mOsm/kgH_2O	(275 – 295)
Urine culture	pure growth of E.coli, colony count > 10^5 org/ml	

3.1. Mention the complete diagnosis. (20 marks)

3.2. Outline the immediate management. (40 marks)

After initial improvement with treatment, she was noted to be drowsy and tachypnoeic. The drowsiness progressively worsened over the next few hours.

3.3. Briefly describe **four (04)** pathological processes that would have caused the increasing drowsiness. (40 marks)

4. A seven month old boy from Kurunegala had been noted to have had a systolic murmur since the newborn period. On clinical findings he had been thought to have a ventricular septal defect.

At six months he had presented to the Family Physician with a history of episodic distress mainly occurring shortly after waking up in the morning. These episodes were noted to be extremely distressing and were accompanied by breathlessness, sweating and brief periods of loss of consciousness. The mother had been able to soothe him back to sleep during these episodes by cuddling and after he falls asleep, he becomes quite normal.

Examination by the doctor had revealed a healthy and alert infant with a body weight of 7.8 kg. His development was found to be normal. He had been noted to have a harsh systolic murmur, conducted to the inter-scapular region.

The doctor had done some basic blood investigations and an EEG.

Haemoglobin	14.2g/dl
WBC/DC	8 x 10^9/L (N 46%, L 52%, M 1%, E 1%)
PCV	44%
Platelets	230 x 10^9/L
Blood sugar	89mg/dl

The mother had been reassured that the blood tests and EEG were normal. She was told that the heart defect would spontaneously resolve with time. However, the episodes continued intermittently.

Two days ago, the infant was brought to Colombo to attend a family wedding when he developed vomiting and became quite ill. He developed a right sided focal seizure followed by inability to move the right arm and leg and was admitted to the casualty ward.

4.1. Mention the most likely diagnosis. (20 marks)

4.2. Explain briefly the pathophysiological mechanisms of the march of events from the findings at the routine neonatal examination right up to the present time. (60 marks)

4.3. What specific treatment would you recommend for this child after managing the acute condition ? (20 marks)

5. A baby girl was born vaginally at term to healthy, non consanguineous parents following an uneventful pregnancy. Apgar scores were 3 and 5 at 1 and 5 minutes respectively. She was intubated and manually ventilated. Intermittent positive pressure ventilation through an endotracheal tube was established and maintained for 40 hours after which she was extubated. The urine output was approximately 25 ml/day. The birth weight was 3.5 kg, length 51 cm, and occipito-frontal circumference 34 cm.
At 48 hours of age she was noted to have macroscopic haematuria.

Investigations done at this stage revealed the following:

Urine analysis

Specificgravity	1.019
Proteins	++
Red cells	>100/HPF
White blood cells	6-8/HPF
Epithelial cells	1-2/HPF
Reducing substances	Negative

Full blood count

WBC	$17.6x10^9$/L	N-40%, L-58%, E-2%
RBC	$4.42x10^9$/L	
Haemoglobin	15.2g/dl	
Platelets	$37x10^9$/L	
PCV	47.6%	

Blood culture	No growth after 48 hours
Prothrombin time	10 seconds (Control 12 seconds)
aPTT	25 seconds (24.5-34.5 seconds)
Plasma fibrinogen	200 mg/dl (170 – 400 mg/dl)
Plasma creatinine	223µ mol/1 (25 – 60µ mol)
Alanine aminotranferase (ALT)	45 U/L (6 – 50U/L)
Aspartate aminotransferase(AST)	140 U/L (35 – 140 U/L)

Despite intravenous antibiotics, intravenous fluids and other supportive care the baby expired on the 4th day.

5.1. Reproduce in your answer exactly what you would write as the 'Cause of Death' in the death certificate issued for this baby. (40 marks)

5.2. At the perinatal mortality meeting held on this baby.

5.2.1. List the information you would seek from the obstetric team regarding the contributory factors that may have led to this child's illness. (30 marks)

5.2.2. List the specific aspects of management by the neonatal team that should be discussed at the meeting. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
DECEMBER 2010

Date : 8th December 2010 Time : 9.00 a.m. – 12.00 noon

PAPER I – STRUCTURED ESSAY QUESTIONS

Answer all five questions.
Answer each question in a separate book.

Q.1.

1.1. Discuss the spectrum of diseases caused by *Streptococcus pneumoniae* and the mechanisms of causation of these disease entities. (30marks)

1.2. Briefly discuss the use of the different types of pneumococcal vaccines available commercially. (30 marks)

1.3. The introduction of the pneumococcal vaccine to the EPI schedule of Sri Lanka is currently being debated. Discuss the factors which should be considered in the decision making process. (40 marks)

Q.2.

2.1. Explain the mechanisms involved in gastro-oesophageal reflux disease (GORD). (20 marks)

2.2. Discuss the clinical features and the differential diagnosis of GORD in infants and children. (30 marks)

2.3. List the investigations that would confirm the diagnosis of GORD in an infant. (15 marks)

2.4. Outline the principles of treatment of GORD in an infant. (35 marks)

Q.3.

3.1. Describe five (05) physical signs associated with raised intracranial pressure (ICP) in a five year old child. (25 marks)

3.2. Describe the uncal syndrome. (20 marks)

3.3. Discuss five (05) therapeutic measures useful in reducing raised intra cranial pressure. (25 marks)

3 4. Discuss the clinical significance of the mean arterial pressure in a child with raised ICP. (30 marks)

Q.4. A three year old boy presents with failure to thrive.

4.1. Discuss how you would assess this child to make a clinical diagnosis of chronic renal failure. (20 marks)

4.2. Outline how you would investigate this child to establish the diagnosis of chronic renal failure. (20 marks)

4.3. Discuss the rational use of medications in chronic renal failure. (35 marks)

4.4. Discuss the ethical issues in paediatric renal transplantation. (25 marks)

Q.5.

5.1. Define syncope. (10 marks)

5.2. Outline the pathophysiological classification of syncope.(30 marks)

5.3. Enumerate the 'red flag' (warning) symptoms and signs that should alert a paediatrician to the possibility of a serious underlying pathology. (30 marks)

5.4. Discuss, giving reasons, five (05) investigations that would facilitate the identification of a possible underlying aetiology, in a child with syncope. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (PAEDIATRICS) EXAMINATION
DECEMBER 2010

Date : 9th December 2010 Time : 9.00 a.m. – 12.00 noon

PAPER II – CASE HISTORIES

Answer all five questions.
Answer each question in a separate book.

1. A 9 month old baby is referred for evaluation of ambiguous genitalia. She is the first born to non-consanguineous parents and had been conceived 4 months after marriage. There had been no other concerns apart from the appearance of the genitalia which had not changed since birth.

   You notice that the mother has acne, is hirsute and hoarse. She had been previously healthy and claimed that these features, which were more marked during the pregnancy, had started to regress about 3 months after delivery.

   Examination of the baby –

   Length - 65 cm (50th to 75th percentile)
   Length at birth - 52 cm (50th to 75th percentile)
   Weight - 6kg (25th percentile)
   Fair in complexion.
   No evidence of dehydration.
   Systems examination was normal. Blood pressure 80/45 mmHg
   Examination of the genitalia - 'Phallus' 2.5 cm,'
   'Labio-scrotal folds' not pigmented or rugose
   One perineal opening
   No palpable gonads
   Anus normal
   Mother's height - 152 cm (3rd percentile)
   Father's height - 172 cm (25th percentile)

Investigations done on the baby-

Serum electrolytes (mEq/L) Na+- 140 (135-145)
K+ - 4.0 (3,5-5.6)
17 hydroxy progesterone (17-0HP) - 5.5nmol/L (< 10)
Free testosterone - 0.1 pg/ml(0.1-1.3)
Dehydro epiandrosterone sulphate (DHEAS) - 0.25)µg/ml (0.25-1.0)
Ultra sound scan of the abdomen- No adrenal hyperplasia or mass lesion
Uterus, ovaries and kidneys are normal for age.
Possibility of the presence of a common urogenital sinus.
Karyotype - 46, XX

1.1. Give two (02) conditions in the differential diagnosis that you would consider in this infant. (20 marks)

1.2. Give the most likely diagnosis and enumerate your reasons. (40 marks)

1.3. Give the most useful investigation for further management of the baby.

1.4. Mention 2 aspects in the long term management. (20 marks)

2. A 9 year old is brought to the emergency department in a collapsed state. He had suddenly collapsed during a sprint event in the school grounds. On arrival, pulse and blood pressure were not recordable, but ECG showed some activity. Circulation did not resume despite full cardio pulmonary resuscitation. Death was certified and a judicial postmortem was ordered. Teachers were unable to give any further information.

2.1. Give four (04) possible causes for his 'collapse'. (20 marks)

2.2. Give three (03) possible ECG diagnoses. (15 marks)

Parents arrived at the scene and report that he had been very well in the past three years and had not needed any medical attention or medications. However at age six years he had been hospitalized for continued fever and rash which had not responded to antibiotics. A tentative diagnosis of juvenile idiopathic arthritis was made and he had responded when aspirin was started. He had been discharged from further clinic follow up because he remained well.

Records showed that at two school medical inspections no heart murmurs or any other abnormalities were noted.

2.3. What investigation during the prolonged illness would have detected the condition that led to his death ? (10 marks)

2.4. State the most likely condition that he would have had at six years. (10 marks)

2.5. Mention the likely postmortem findings. (20 marks)

2.6. Describe how the condition that led to the fatality may have been prevented. (25 marks)

3. A 13 month old child was brought with difficulty in breathing and poor feeding of 14 days duration. Mother was drowsy, inconsistent with the history and not in a state to provide useful information.

According to the 10 year old sister who ,accompanied them, he had been unwell for two weeks with fever and cough. There was no history of diarrhoea and as far as the sister was aware her brother was not on any long term medications. The children had never seen their father. A four year old sibling had been adopted by a neighbour.

This child had been born at term with a birth weight of 2 .5 Kg and was still breast fed.
Immunization records were unavailable.

On examination he was drowsy, ill looking, his hair was dirty and de-pigmented, skin was pale with patchy hyper pigmentation and there was oral thrush and pedal oedema
Weight was 6.3 kg and temperature was 98.6°F. There was no evidence of non accidental injury. Respiratory rate 50/min, pulse rate 120 /min and oxygen saturation was 94%. Blood pressure 80/55 mm Hg. There was a soft ejection systolic murmur, reduced breath sounds with dull percussion note over left lower zone. Liver and spleen were felt 3cm and 1 cm below the respective costal margins.

3.1. Enumerate three (03) specific medical diagnoses you suspect in this child. (15 marks)

3.2. Describe the evidence available (on history and examination) for each of the conditions mentioned in 3.1 (20 marks)

The results of his investigations are as follows :

White Blood Count	$12x10^9$/L N-35% L- 65%	
Hb	6g/dl	
MCV	$56\mu^3$	(75 - 85)
MCHC	25g Hb/dl RBC	(30 - 36)
MCH	20pg/cell	(23 - 30)

RDW	24%	(10 - 15)
Platelet count	122x 10^9/mm^3	(150 - 400 x 10^9)
CRP	76mg/L	(< 6.0)
ESR	56mm 1st hour	
ALT	35 U/L	(6 - 50 U/L)
AST	70 U/L	(35 - 140U/L)
Serum creatinine	30 µmol/L	(18 -35µmol/l)
Total serum protein	4 g/dL	(6.1 - 7.9)
Albumin	2g/dL	
Globulin	2g/dL	
Urine full report	Protein - Nil	
	2-3 pus cell/hpf	
Urine culture	no growth	
CSF	Protein 250mg/dL	
	Sugar 30mg/dL	
	Lymphocytes 230/mm^3	
	Polymorphs 48/mm^3	
CT Brain	Normal	
CXR PA	Homogenous opacity in left lower lobe. No shift of mediastinum and no cardiomegaly.	
Blood culture	No growth	

3.3. List five (05) underlying abnormalities that could have caused drowsiness in this child. (15 marks)

3.4. List five (05) investigations which would confirm the underlying condition that has caused the changes in CSF. (15 marks)

3.5. Outline the principles of management. (35marks)

4. A 7 year old boy saw his family doctor on several occasions for recurrent abdominal pain. During the past three months he has been passing loose stools 5-6 times a day with no blood or mucus. He complained of tiredness and missed school on several days. There was no travel history or family history of bowel disease.

His family doctor performed a full blood count, urine analysis, stool smear, erythrocyte sedimentation rate, liver functions, blood urea and thyroid function tests which were all normal; However because of persistent symptoms he was referred to a paediatrician.

On examination he weighed 17 kg (His weight at 5 years was 18Kg on the CHDR). He was wasted, had no oral ulcers, skin lesions, clubbing or lymphadenopathy. There was mild abdominal distension, but the rest of the physical examination was normal.

Further investigations found :

WBC	7.6×10^9/L	
	Neutrophils 6.6×10^9/L Lymphocytes 0.9×10^9/L, Eosinophils 0.1×10^9/L	
Hb	9.0 g /dL	
CRP	9 mg/L	(<6.0)
Total Proteins	4.2g/dL	(6.1 – 7.9)
Serum albumin	2.5g/dL	
Serum Folate	2.4 ng/L	(2.5 – 15)
Plasma B_{12} level	200 ng/L	(140 – 700)

Serum IgA, IgG and IgM levels were low

Abdominal ultra sound scan showed"Ascites with bowel wall thickening, mild splenomegaly and mesenteric lymph nodes"

4.1. mention the most likely diagnosis, giving reasons. (25 marks)

4.2. How would you investigate this child further (giving reasons for selecting each test) ? (40 marks)

4.3 Write the principles of treatment of this child. (35 marks)

5. A previously healthy 10 year old girl developed a febrile illness with a dry cough one week ago. She was treated with oral amoxicillin but after two days of treatment as she became increasingly breathless she was admitted to a base hospital. Her initial investigation results on admission were as follows.

WEC	11.5×10^9/dL
Neutrophils	82 %
Lymphocytes	18 %
Chest X ray	Evidence of right middle lobe consolidation

She was then commenced on intravenous cefuroxime (60mg/kg/day) and on the 4th day of treatment she became more unwell with high fever, shortness of breath and reduced urine out put. Her urinalysis revealed microscopic haematuria and ++ proteinuria. Her oxygen saturation in air was 89% and therefore she was transferred with mask oxygen to a tertiary referral centre for intensive care. During the transfer she developed a generalised seizure which lasted for 2 minutes.

On arrival in the intensive care unit the examination findings were as follows. Respiratory rate 35/minute with bilateral coarse crackles. Oxygen saturation on mask oxygen 88%, temperature 39.5^0C, drowsy but responds to verbal commands, pulse rate 140/minute and heart was in dual rhythm with no murmurs.

5.1. What is the most likely underlying aetiology ? (15 marks)

5.2. Name one other important clinical examination you will perform in this patient. (10 marks)

5.3. Name four likely causes for the generalized seizure in this patient. (20 marks)

5.4. Critically analyse the pathophysiology of the respiratory decompensation. (25 marks)

5.5. Outline the principles of management in the first 24 hours. (30 marks)