

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**SEPTEMBER , 1990**

Date: 10<sup>th</sup> September 1990

Time: 2.00 p.m.- 5.00 p.m.

**ESSAY PAPER**

**Answer all questions.**

**Answer Part A & Part B in separate books.**

**PART A**

1.
  - (a) List the neuropsychiatric manifestations of
    - (i) Hypothyroidism
    - (ii) Systemic lupus erythematosus,
  - (b) How would you distinguish on physical examination an unconscious patient with phenobarbitone overdose from amitriptyline overdose.
2. Write short notes on ,
  - (a) The pharmacological basis of drug treatment of Parkinson's disease.
  - (b) The physiological basis of symptoms of hyperventilation
  - (c) The hormonal basis of the clinical features of Sheehan's syndrome (panhypopituitarism)

**PART B**

3.
  - (a) What do you understand by ego defense mechanisms?
  - (b) Briefly describe the functions of three mechanisms in health and in psychoneurotic functions.
4. Write short notes on ,
  - (a) Sensory deprivation
  - (b) Gender identity
  - (c) Token economy

5. (a) List the pharmacological effects of ethanol on the ,
- i. Central nervous system
  - ii Cardiovascular system
  - iii Gastrointestinal system
  - iv Genitourinary system
- (b) Briefly outline the relationship between ingestion of alcohol and blood, alcohol concentration.
6. (a) Describe the catecholamines neurotransmitter pathways of the central nervous system
- (b) List the known effects of drugs used in the treatment of depression Schizophrenia on these transmitters.
7. (a) The point prevalence of schizophrenia is said to be 200 per 100,000 people. Briefly outline how this rate is calculated.
8. (a) Briefly describe the term Emotion.
- (b) List the physiological reactions associated with emotional arousal. Indicate the sympathetic and parasympathetic involvement of the reactions you list.
- (c) List the theories of emotion you know and briefly comment on one of them.
9. (a) List the essential features of short-term memory and long term memory.
- (b) Describe the biological basis of memory.
10. (a) List the structures of the limbic system
- (b) Describe briefly the connections of limbic system to hypothalamus and to temporal lobe.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART II EXAMINATION**  
**OCTOBER, 1991**

Date: 07<sup>th</sup> October 1991

Time: 2.00 p.m.- 5.00 p.m.

**ESSAY PAPER**

**Answer all questions.**

**Answer Part A & Part B in separate books.**

**PART A**

1. How does the Physical Examination help to differentiate ,
  - (a) hysterical hyperventilation from bronchial asthma
  - (b) acute dystonic reaction from tetanus
  - (c) Anxiety state from hyperthyroidism
  
2.
  - (a) List the signs and symptoms that follow acute excessive alcohol intake.
  - (b) Outline the principles in the management of a patient in an unconscious state with a history of excessive alcohol use.

**PART B**

3. What useful psychopharmacological mechanisms are considered to operate in the following clinical situations?
  - (a) Chlorpromazine in the treatment of Schizophrenia
  - (b) Imipramine in the treatment of Depressive Disorder.
  - (c) Diazepam in the treatment of Anxiety State.
  
4. Briefly state the principles that would guide you in antiepileptic treatment. Give examples.

5. Briefly comment on the following treatments ,
  - (a) Cerebral vasodilatation co dergocrine mesylate (Hydergine) in the treatment of Dementia.
  - (b) Methadone in the treatment of Opiate Dependence.
  - (c) Disulfiram in the treatment of Alcohol Dependence.
  
6. Discuss briefly the differences between ,
  - (a) The compulsion to drink alcohol and the compulsion to wash ones hand repetitively.
  - (b) A hypochondriacal idea and a delusion
  - (c) A hallucination and a pseudo hallucination
  
7. Briefly describe the ,
  - (a) Hamilton Rating Scale for Anxiety
  - (b) Describe the psychopathology of Anxiety disorders.
  
8.
  - (a) List the theories of learning
  - (b) Describe how these theoretical principles could be used in the treatment of phobias
  
9. Briefly outline ,
  - (a) The theories of Perception
  - (b) Write short notes on
    - i. Perceptual constancies
    - ii. Depth perception
    - iii. Form perception
  
10. Write short notes on ,
  - (a) Stratified sampling
  - (b) Retrospective and prospective studies
  - (c) Student t test

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER, 1992**

Date: 05<sup>th</sup> October 1992

Time: 2.00 p.m. – 5.00 p.m.

**ESSAY PAPER**

**Answer all questions**

**Answer Part A & Part B in separate books.**

**PART A**

1.
  - (a) What are the causes of ptosis ? (25%)
  - (b) Describe briefly the clinical features of 3 of the conditions that you have mentioned in (a). (75%)
  
2. What clinical features and investigations will help you to distinguish between:
  - (a) Irritable bowel syndrome and ulcerative colitis
  - (b) Tension headache and headache due to raised intracranial pressure?
  - (c) Seizures and pseudoseizures

**PART B**

3.
  - (a) Draw a transverse section of the spinal cord in the cervical region and indicate the important ascending and descending tracts.
  - (b) What neurological signs would you expect to find in a patient with a hemisection of the spinal cord at the level of the 6th cervical segment?
  
4.
  - (a) Briefly describe Sigmund Freud's technique of psychoanalysis.
  - (b) What were his views on dream-interpretation and humor?
  
5. Critically discuss the following statement:  
"The prevalence of a disorder 'x' in a general practice can be taken as a useful indicator of the prevalence of 'x' in the community".

- 6.
- (a) How does a delusion differ from an overvalued idea ?
  - (b) How may delusions be classified according to the theme?
  - (c) What theories have been put forward to explain the causation of delusions?
7. Explain the following ,
- (a) Twirling a fine needle in the skin relieves pain in the same segment.
  - (b) A soccer player with a knee-injury plays on with little pain after sustaining the injury.
  - (c) Tricyclic drugs are useful in chronic pain.
8. What criticisms have been leveled against each of the following methods of assessing personality?
- (a) Observational methods
  - (b) Personality inventories
  - (c) Projective techniques
- 9.
- (a) Describe the mechanism of penile erection.
  - (b) List 3 common disorders that cause erectile failure and explain the mechanisms.
10. Explain the following ,
- (a) Students are not advised to study in bed.
  - (b) Those who study and sleep retain more.
  - (c) Meditation helps to deal with stress.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER, 1993**

Date: 4<sup>th</sup> October 1993

Time: 2.00 p.m. - 5.00 p.m.

**ESSAY PAPER**

**Answer all questions.**

**Answer Part A & Part B in separate books.**

**PART A**

1. A 20-year-old patient is admitted to a teaching hospital with suspected phenobarbitone poisoning.
  - (a) State the expected features on clinical examination (50%)
  - (b) How would you manage this patient in the first 24 hours? (50%)
  
2.
  - (a) List four common types of aphasia (20%)
  - (b) State how you would diagnose each of the above on the basis of history and clinical examination (80%)

**PART B**

3.
  - (a) How may the understanding of transference phenomena be helpful in psychiatric practice ? (50%)
  - (b) Briefly describe the limitations and weaknesses of Sigmund Freud's theories. (50%)
  
4.
  - (a) What are the features of tardive dyskinesia ? (40%)
  - (b) Give the causes and associations of the above condition. (40%)
  - (c) How may it be prevented? (40%)

5.
  - (a) What theories have psychologists put forward to explain aggressive behavior ? (50%)
  - (b) What effects would viewing violence on television have on a child?(50%)
  
6.
  - (a) Describe briefly an evoked potential. (50%)
  - (b) List three uses of evoked potentials in medical practice (50%)
  
7.
  - (a) Describe the features of Type A personality (40%)
  - (b) What is known about the susceptibility to illness among people with the above personality? (40%)
  
8.
  - (a) How may hallucinations be classified? (60%)
  - (b) Enumerate the conditions in which visual hallucinations occur.
  
9. Draw and label the neural pathway involved in memory.
  
10. A double blind clinical trial using drug A and placebo, had 13 patients in each group, The following values were obtained in the two groups,

Drug A	Placebo
2	3
2	4
3	5
4	6
5	6
5	7
6	8
6	9
7	9
8	10
9	10
9	10

- (a) Draw the frequency distribution curve for the score in the patient group-receiving drug A.
- (b) Calculate the standard deviation in the patient group on drug A.
- (c) If the t value for the differences in means was calculated to be 1.02, using the following table, state if the null hypothesis has been proved or not.

df	p. value		
	0.10(10%)	0.05(5%)	0.01(1%)
4	1.53	2.13	3.75
9	1.38	1.76	2.82
14	1.34	1.73	2.62
19	1.33	1.71	2.54
22	1.32	1.71	2.50
24	1.32	1.71	2.49

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER 1994**

Date: 3<sup>rd</sup> October 1994

Time: 2.00 p.m. - 5.00 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**PART A**

1. A 12-year old school girl has complex partial epilepsy. Describe the management of this patient. (Pharmacological, psychological and family).

**PART B**

2. Explain the following ,
  - a) A person is more likely to dream in the early hours of the morning.
  - b) Heroin withdrawal causes severe muscle pain.
  - c) Skin colour darkens in Addison's disease.
3. Describe the roles of the following ,
  - a) Autoreceptors
  - b) Cholecystokinin
4.
  - a) List the structures in the nervous system, involved in the normal sexual response.
  - b) Briefly describe the physiological changes observed during the normal sexual response in the human
  - c) What misconceptions in the physiology and the psychology of sex were corrected by the research conducted by Dr. Masters and Mrs. Johnson?

5. Draw and label the arterial supply to the brain.
  
6. Describe the anatomical locations and the functions of the following ,
  - a) Arcuate fasciculus
  - b) Raphe nuclei
  - c) Flocculonodular lobe
  
7. Briefly explain psychological principles, which may underlie the following ,
  - a) An actress wept for several minutes after acting a bereaved mother.
  - b) A young lady watching a traditional exorcism ceremony began to dance.
  - c) Each member of the public interviewed randomly, remembered exactly where he was and what he was doing when he learned of the killing of the President of Sri Lanka in the bomb explosion in 1993.
  - d) All three room mates in the nurses' quarters began to have menstrual periods together.
  
8.
  - a) Define the term "antipsychotic drug", critically discussing the use of the term and of alternative terms.
  - b) What are the essential differences between Classic Antipsychotics and the New Atypical Antipsychotics?
  - c) Mention one example of the New Atypical Antipsychotics and list its side effects and the precautions to be taken when it is prescribed.
  
9. Describe the relevance of the following to Psychiatry:
  - a) Harlow's experiments with monkeys.
  - b) Konrad Lorenz's theory of imprinting.
  
10. Describe how these differ from each other.
  - a) Stratified sampling from cluster sampling.
  - b) Criterion validity from content validity.
  - c) Point prevalence from incidence.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER 1995**

Date: 2<sup>nd</sup> October 1995

Time: 2.00p.m. - 5.00 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**PART A (NEW SYLLABUS)**

1. A 50-year-old man with a long history of alcohol abuse is admitted to hospital unconscious.
  - a) List the metabolic causes, which may be responsible for, his unconscious state. (25%)
  - b) Describe briefly the pathophysiology and management of three of the conditions that you have listed. (75%)
  
2. Write short notes on ,
  - a) Neurological manifestations of organophosphate insecticide poisoning (33.3%)
  - b) Reversible dementias (33.3%)
  - c) Cortical blindness (33.3%)

**PART B**

3.
  - (a) Briefly outline the anatomy of the spinal cord and cauda equina. (50%)
  - (b) Draw a transverse section of the spinal cord in the cervical region and label the structures seen in the gray matter and white matter. (50%)
  
4.
  - a) Describe the anatomical relationship of the pituitary gland. (50%)
  - b) Describe the blood supply of the pituitary and its significance for pituitary functions. (50%)

5. Explain the anatomical basis of the following ,
- (a) Horner's syndrome occurring in lung cancer. (33.3%)
  - (b) Inability to pass urine following injury to spinal cord and subsequent return of ability to pass urine. (33.3%)
  - (c) Drowsiness and vertigo occurring in basilar migraine. (33.3%)
- 6.
- (a) Describe the EEG patterns which may occur during sleep in a young adult. (50%)
  - (b) What are the characteristics of REM sleep? (50%)
7. Explain the physiological basis of the following ,
- (a) Trousseau's sign produced by inflating a blood pressure cuff. (33.3%)
  - (b) Ejection of milk in a lactating woman at sexual intercourse. (33.3%)
  - (c) Blocking of effects of acupuncture with naloxone. (33.3%)
8. What is the rationale of ,
- (a) Using L-dopa with carbidopa in the treatment of Parkinson's disease? (33.3%)
  - (b) Using L-tryptophan with monoamine oxidase inhibitors in the treatment of depression? (33.3%)
  - (c) Not using lithium carbonate with thiazide diuretics? (33.3%)
- 9.
- (a) Define the prevalence and incidence rates (20%)
  - (b) List the factors that can lead to an increase in their rates. (30%)
  - (c) Which of the above rates would be more useful in planning mental health services? Give reasons for your choice. (50%)
- 10.
- (a) What views have been expressed on the definition of hallucinations?(50%)
  - (b) Of what significance are auditory hallucinations in the diagnosis of schizophrenia? (50%)

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER 1996**

Date: 14<sup>th</sup> October 1996

Time: 2.00p.m. -5.00p.m.

**ESSAY PAPER**

**Answer all questions.**

**PART A (NEW SYLLABUS)**

1. Discuss the clinical differences between
  - (a) A fit and a faint (25%)
  - (b) Vertigo and sensory ataxia (25%)
  - (c) Migraine and tension headache (25%)
  - (d) Malingering and hypochondriasis (25%)
  
2.
  - (a) What do you understand by the term "Body Mass Index" (10%)
  - (b) List the physical & psychiatric illnesses, which lead to
    - i) Anorexia and loss of weight
    - ii) Polyphagia and obesity as prominent clinical features. (30%)
  - (c) Outline a plan to investigate obesity (30%)
  - (d) Outline the principles of management of anorexia nervosa (30%)

**PART B**

3.
  - (a) List 3 possible consequences of section of the corpus callosum in man. (50%)
  - (b) Describe briefly what they mean in terms of cortical functions. (50%)
  
4.
  - (a) Discuss the advantages and disadvantages of the existence of both indigenous and modern medical systems in the same country. (50%)
  - (b) What sociocultural factors influence a depressed patient to choose between these two systems in Sri Lanka ? (50%)

5. Explain the following
- (a) Denial by a patient with left sided hemiplegia that he has hemiplegia (25%)
  - (b) Gerstmann's syndrome (25%)
  - (c) Loss of taste in smokers (25%)
  - (d) Brain damage in the posterior part of the brain in boxers (25%)
6. Describe briefly the differences between ,
- (a) Overvalued idea and delusion (25%)
  - (c) Primary and secondary delusion (25%)
  - (c) Manic thought disorder and schizophrenic thought disorder (25%)
  - (d) Obsession and compulsion (25%)
7. Describe the basis of the following observations:
- (a) An epileptic patient developed severe ataxia after 4 weeks treatment with 300mg of phenytoin per day (25%)
  - (b) Patients on thioridazine may have eye and sexual complaints (25%)
  - (c) Galactorrhoea in patients on chlorpromazine (25%)
  - (d) Severe throbbing headache in a patient on phenelzine, after eating cheese (25%)
8. Write short notes on the following (Your descriptions must include definitions and uses)
- (a) Standard error of the mean (50%)
  - (b) Level of significance. (50%)
- 9.
- (a) Describe briefly what is meant by the term "Blood brain barrie" (30%)
  - (b) Describe the anatomical basis of the above (35%)
  - (c) Describe briefly the relevance of the blood brain barrier to psychiatry (35%)
- 10.
- (a) List the symptoms of narcolepsy (50%)
  - (b) Describe briefly the basis of use of medication to treat the above disorder (50%)

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER 1997**

Date: 13<sup>th</sup> October 1997

Time: 2.00 p.m.- 5.00 p.m.

**ESSAY PAPER**

**Answer Ten questions.**

**PART A**

1.
  - (a). Define
    - (i) epilepsy
    - (ii) Status epilepticus.
  - (b). List the principles of treatment of epilepsy.
  - (c). What are the problems associated with the long-term use of anti-epileptic drugs?
2. Write short notes on ,
  - (a). Normal pressure hydrocephalus.
  - (b). Wilson's disease.
  - (c). AIDS dementia.

**PART B**

3.
  - (a). Draw and label structures on the ventral surface of the brain stem.
  - (b). Name the arteries supplying the brain stem.
4. Explain the following ,
  - (a). A patient after a road traffic accident was unable, for five days after regaining consciousness, to recall the event.
  - (b). A person dependent on alcohol was unable to recall the events of the previous night.
  - (c). A person who was found by his relatives a long distance away from his home denied all memories of his whereabouts during the period of absence from home.
  - (d). An eighty-year-old widow presented with forgetfulness.

- 5.
- (a). What is a neuropeptide?
  - (b). Describe the functions of different neuropeptides occurring in central nervous system.
- 6.
- (a). What are the advantages of selective- serotonin reuptake inhibitors (SSRIs) over, tricyclic antidepressants?
  - (b). List the unwanted effects of SSRIs
7. Describe the physiological basis of the following phenomena.
- (a). A young man was found to have hypoglycemia after taking alcohol.
  - (b). A twenty-three year old man on treatment for schizophrenia could not get a penile erection.
  - (c). A patient who was receiving amitriptyline developed a severe reaction adding fluoxetine to his treatment regime.
- 10.
- (a). Briefly describe the production and the circulation of cerebrospinal fluid.
  - (b). What is the composition of normal cerebrospinal fluid?
  - (c). What changes would you expect to find in the composition of cerebrospinal fluid in tuberculous meningitis?
9. Explain the neurophysiological basis of the following ,
- (a). Loss of vision in one eye in congenital strabismus.
  - (b). The ability of the facial skin to detect an object less than 2 nun in size opposed to the inability of the skin of the back of the chest to detect the object.
10. Describe the significance of the following statistical concepts ,
- (a). Null hypothesis.
  - (b). Type I and Type II errors.
  - (c). Pearson's correlation coefficient.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**JUNE 1998**

Date: 8<sup>th</sup> June 1998

Time: 2.00 p.m. - 5.00 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer Part A & Part B in separate books.**

**PART A**

1. A patient is admitted to hospital with recent onset mental confusion and generalized seizures. Computerized Tomographic (CT) scan of the head is reported as normal.
  - (a) List the-differential diagnosis.
  - (c) Discuss other investigations that would help in arriving at a diagnosis.
  
2.
  - (a) Describe the pathological changes (including histopathological changes) which occur in the liver due to excessive alcohol consumption.
  - (b) Describe the clinical features corresponding to the above.

**PART B**

3.
  - (a) Demarcate the main functional areas of the brain as seen in a lateral view of its surface.
  - (b) List their functions.
  
4. Outline the physiological and psychological changes during the sexual response cycle in a young man,
  - (a) Before orgasm
  - (b) At orgasm
  - (c) After orgasm

5.
  - (a) Describe the serotonin system in the central nervous system
  - (b) List the functions of the various components of this system.
  
6. Explain the following ,
  - (a) A cortically blind person can avoid obstacles placed in his way and turn towards strong visual stimuli.
  - (b) Mass reflex in a spinal animal,
  - (c) A child with petit mal performs poorly in school despite superior intelligence.
  
7.
  - (a) List three mood stabilizing drugs.
  - (b) Describe common side effects of each.
  
8. Discuss the differences between ,
  - (a) Hallucinations and pseudo-hallucinations
  - (b) Dementia and depressive pseudo-dementia
  - (c) Systematized and shared delusions.
  
9.
  - (a) Name and describe the main components of the basal ganglia.
  - (b) What diseases, result from abnormalities of the basal ganglia?
  
10. Comment critically on the following findings and suggest improvements to the studies:
  - (a) An outpatient study in a rural government hospital showed that, the prevalence of betel chewing has not reduced in Sri Lanka, over the last 10 years.
  - (b) Eating animal fat causes ischaemic heart disease according to a recent study, which showed a strong correlation between the two.
  - (c) A telephone opinion showed a strong support for privatization of a state owned company.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER 1998**

Date: 12<sup>th</sup> October 1998

Time: 2.00 p.m.- 5.00 p.m.

**ESSAY PAPER**

**Answer all Ten questions.**

**Answer Part A and Part B in separate books.**

**PART A**

1. 60-year-old patient presents with a complaint of recurrent attacks of 'dizziness'
  - (a) What specific features in the history?
  - (b) What specific features in the clinical examination would you look for to arrive at the cause of dizziness?
  
2. 65-year-old hypertensive presents with mental confusion, drowsiness and lethargy.  
Investigations are as follows ,  
  
Blood urea 20mg/dl  
Sodium 105 mMol/L  
Potassium 3.5 mMol/L
  - (a) Discuss possible causes for the hyponatremia
  - (b) List the investigations you would do?
  - (c) Outline the immediate management

**PART B**

3. Draw and label the cortical layers of the human brain. Describe briefly the known functions of these layers.
4. Describe the structure and function of reticular activating system of the CNS.
5. "We have little direct control over our viscera but the viscera have much control over our behavior".  
Explain the neurophysiological basis of this statement.

6. Outline the innervation of the bladder and sexual organs. How are micturition reflex and ejaculation caused?
7.
  - (a) List three atypical neuroleptics
  - (b) Describe common side effects of each
8. Write short notes on ,
  - (a) Fugue
  - (b) Derealization
  - (c) Tics
9. List the main hypothalamic nuclei.  
Describe briefly the vegetative and endocrine control function of the hypothalamus.
10. Explain the following ,
  - (a) Confounding variable
  - (b) Relative risk
  - (c) Pearson's correlation coefficient

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**JUNE, 1999**

Date: 7<sup>th</sup> June 1999

Time: 1.00 p.m. - 4.00 p.m.

**ESSAY PAPER**

**Answer all Ten questions.**

**Answer Part A and Part B in separate books.**

**PART A**

1. Insulin dependent diabetic is admitted with drowsiness and mental confusion.
  - (a) List four most likely causes for his/her condition in relation to diabetes.
  - (b) Outline the important clinical features you would look for each condition you have listed.
  - (c) Mention one investigation in each condition to confirm your diagnosis.
  
2.
  - (a) Describe briefly the anatomy and physiology of circulation of the brain
  - (b) Outline the changes in cerebral circulation that occurs in cerebrovascular disease

**PART B**

3. Describe the anatomical connections and functions of pre-frontal lobe
  
4. Explain the following ,
  - (a) Phenothiazines cause amenorrhoea
  - (b) Patients with Cushing's syndrome are dark in colour
  - (c) Alcohol can cause both hypo and hyperglycemia

5.
  - (a) Describe briefly the auditory pathway
  - (b) Outline the outcome of following lesions:
    - i. In primary auditory cortical area
    - ii. In auditory association area
6. Explain the possible neurological basis of the following
  - (a) A well-behaved professional started urinating in public and feeling women in public places after a head injury
  - (b) A businessman, loses his ability to count currency notes suddenly
  - (c) A 65-year-old man faints whenever he shaves his beard.
7. Describe the unwanted effects of the following drug combinations:
  - (a) Thioridazine and benzhexol
  - (b) Clozapine and carbamazepine
  - (c) Fluoxetine and amitriptyline
8. Write short notes on ,
  - (a) Primary delusions
  - (b) Systematized delusions
  - (c) Pseudohallucinations
9. Describe the functions and connections of amygdala
10. Describe critically the following statements ,
  - (a) A correlation co-efficient of  $r = 0.9$  between A and B indicates A causes B
  - (b) A test of high sensitivity is likely to give more false positives
  - (c) With the introduction of law to make wearing seat belt compulsory in 1982 there was a sudden drop of injuries from road traffic accidents. 5 years later the number of injuries reached the original level. Therefore seatbelt is not effective in preventing injuries.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER, 1999**

Date: 11<sup>th</sup> October 1999

Time: 1.30 p.m. - 4.30p.m.

**ESSAY PAPER**

**Answer all Ten questions.**

**Answer Part A and Part B in separate books.**

**PART A**

1.
  - 1.1. List causes of acute fulminant hepatic failure.
  - 1.2. Discuss the clinical features of hepatic encephalopathy.
  - 1.3. Outline the complications and management of acute liver failure.
  
2. A young female is admitted to hospital with a history of transient episode of fainting with saliva drooling from the corner of her mouth.
  - 2.1. Discuss features in the history you would like to obtain to differentiate seizure from syncope.
  - 2.2. If she continues to have similar episodes in hospital what investigations you would do and give reasons.
  - 2.3. If she is diagnosed as having a seizure disorder what advise would you give her relatives/carer on discharge from the hospital.

**PART B**

3.
  - 3.1. Draw and label the transverse section of the spinal cord at the level of the fifth cervical segment.
  - 3.2. Outline the blood supply of the spinal cord.
  
4. Describe the structure and function of the cerebellum.

5.
  - A. Briefly outlines the human sexual response.
  - B. Outline the differences between male and female sexual response.
  - C. List the causes of erectile dysfunction of a 50 year old, previously sexually active man, with brief description of the mechanisms.
6. What advice would you give to the patient and to the carer, when you commence treatment with ?
  - A. Amitriptyline
  - B. Haloperidol
  - C. Lithium carbonates.
7. Explain the psychopathological basis of the following ,
  - A. A patient felt a pain in her head when she heard other patients sneeze.
  - B. An 18-year-old schoolboy says he has "AIDS" because the traffic lights turned "Red" when his school bus approached it.
  - C. A patient with alcohol misuse perceives innocent gestures and actions of the doctor and the nurses as threats.
8. Write short notes on ,
  - A. Dopamine receptors
  - B. Serotonergic neurotransmission
9. Write short notes on the following.
  - A. Biochemical changes of Anorexia Nervosa.
  - B. Neuropathological changes of senile dementia of Alzheimer's type
10. A researcher wanted to compare the mean blood-cholesterol levels of a group of people in a remote village with the mean blood cholesterol levels of the general population. He studied 100 randomly collected blood samples of the villagers and found the mean cholesterol level as 198 mg/100 cc with a standard deviation of 5.0. The figure for the general population was 200 mg /100 cc.
  - A. What is the standard error of the difference between the mean blood cholesterol levels of villagers and the general population?
  - B. What is the significance of the difference?

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**MAY, 2000**

Date: 8<sup>th</sup> May 2000

Time: 2.00 p.m. - 5.00 p.m.

**ESSAY PAPER**

**Answer all Ten questions.**

**Answer Part A and Part B in separate books.**

**PART A**

1.
  - 1.1. What relevant symptoms would you inquire from a patient presenting with headache, to arrive at a specific diagnosis?
  - 1.2. Discuss briefly the management of migraine.
  
2. A fifty-year-old female complains of episodes of palpitations associated with difficulty in breathing.
  - (a) List the most likely causes for her symptoms
  - (b) What relevant investigations would you do on this patient? (Give reasons)
  - (d) Outline the management of one of the causes you have listed in (a)

**PART B**

3.
  - 3.1. Draw and label the structures that form the limbic system
  - 3.2. List the efferent connections of the hippocampus
  
4.
  - 4.1. Using examples describes the first and second laws of Mendel
  - 4.2. Using standard symbols, draw a three-generation family pedigree chart to illustrate the inheritance of an autosomal dominant disorder.
  
5. Briefly describe the macroscopic and microscopic pathological features in the brain of the following disorders
  - (a) Pick's disease
  - (b) Huntington's chorea
  - (c) Multi-infarct dementia

6. Write short notes on the following ,
- (a) First pass metabolism
  - (b) Bio-availability
  - (c) First order elimination (linear kinetics)
  - (d) Zero order elimination (saturation kinetics)
7. Write short notes on ,
- (a) Gamma-aminobutyric Acid
  - (b) Enkephalins
8. Explain the psychopathological basis of the following ,
- (a) A 70-year-old lady complains that her bowels are blocked with putrefying matter.
  - (b) Experience of seeing one's own body projected into external space
  - (c) A person feels as if part of his brain had stopped working
9. Describe the following ,
- (a) Pure word-deafness
  - (b) Pure word-blindness
  - (c) Pure word-dumbness
10. In a trial, of a new drug against a standard drug, for the treatment of depression, the new drug showed clinical efficacy in 40 out of 50 subjects and the standard drug in 20 out of 50 subjects.
- 10.1. Demonstrate using statistical calculations whether the higher clinical efficacy of the new drug is statistically significant.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER, 2000**

Date: 16<sup>th</sup> October 2000

Time: 2.00 p.m. - 5.00 p.m.

**ESSAY PAPER**

**Answer all Ten questions.**

**Answer Part A and Part B in separate books.**

**PART A**

1. A 35-year-old male has a history of several hospital admissions with chest pain. On each occasion the 12 lead ECG had been normal.
  - 1.1 Discuss the clinical features that would help you to differentiate ischaemic heart disease from other causes of chest pain.
  - 1.2 List relevant investigations you would do if you suspect ischaemic heart disease.
  - 1.3 List the classes of drugs used in the treatment of angina and their common side effects.
  
2. A middle-aged male is seen in the clinic with a history of recent onset unsteady gait. On examination he is found to be ataxic.
  - 2.1 Outline the important points in the history, which would help you to find the cause of his ataxia.
  - 2.2 List the specific features you would look for on neurological examination.
  - 2.3 List the relevant investigations you would do. Give reasons.

**PART B**

3.
  - 3.1 Draw and label a synapse
  - 3.2 Outline the principles of neurotransmission
  
4. A young university lecturer frequently falls a sleep while lecturing. There is a family history of a similar complaint. He also falls to the ground when he laughs.
  - 4.1 List three possible diagnoses
  - 4.2 What is the most likely diagnosis? Give reasons.
  - 4.3 List the investigations you would do to confirm the diagnosis.

5. Describe the macroscopic and microscopic features in the brain of the following disorders.
  - 5.1. Wernicke - Korsakoff syndrome
  - 5.2. Parkinson's Disease
  - 5.3. Alzheimer's disease
  
6. Write short notes on the following terms used in pharmacokinetics
  - 6.1 Half life
  - 6.2 Volume of distribution
  - 6.3 Biotransformation
  
7. Describe the neurochemical basis for the therapeutic and side effects of the following drugs.
  - 7.1 Imipramine
  - 7.2 Chlorpromazine
  - 7.3 Diazepam
  
8. Explain the psychopathological basis of the following:
  - 8.1 A person hearing his own name being called when falling asleep.
  - 8.2 A person lying in bed keeps his head a few inches off the pillow and maintains this posture for hours.
  - 8.3 A soldier becomes mute and immobile after witnessing a bomb blast which killed several of his colleagues.
  
9. Describe the neuro anatomical basis of the following ,
  - 9.1 Visual hallucinations in temporo-parietal lesions.
  - 9.2 Difficulty in writing in carotid artery ischaemia.
  - 9.3 Urinary incontinence in para saggital meningioma.
  
10. A researcher develops a new test to diagnose depression. According to the DSM IV criteria (the gold standard), 10% of adults are depressed in the community. The new test was applied to 100 subjects diagnosed as being depressed by DSM IV criteria. Eighty (80) had a positive test. The test was also applied to 400 subjects who were not depressed. Sixty (60) had a positive test.
  - 10.1 Calculate the sensitivity, specificity and positive predictive value for the new test.
  - 10.2 Discuss briefly giving reasons whether you would recommend this test as a general screening instrument.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**MAY, 2001**

Date: 14<sup>th</sup> May, 2001

Time: 2.00 p.m - 5.00 p.m.

**ESSAY PAPER**

**Answer all Ten questions.**

**Answer Part A and Part B in separate books.**

**PART A**

1. A 50 year old female complains of difficulty in breathing over the past few months. She brings with her a recent X-ray of her chest, which has been reported as normal.
  - a) List **three (3)** possible **causes** for her symptoms
  - b) Outline important clinical features in the **three (3)** conditions you listed.
  - c) Write one investigation to verify the diagnosis in **each** condition.
  
2. A 40 year old male is admitted to hospital with a history of mental confusion of three (3) day's duration. On inquiry from his wife he has been consuming one to two bottles of kasippu daily and has stopped drinking one week ago when he was admitted to a surgical ward for observation following a fall from a bicycle.
  - a) List **four (4)** possible **causes** for his mental confusion
  - b) Write **two (2)** physical signs you would look for in **each** of the conditions you listed, to verify the diagnosis.
  - c) **Outline** specific therapeutic strategies you would undertake in **two (2)** of the conditions.

## PART B

3.
  - 3.1 Draw and label the **lateral surface** of the **left** cerebral hemisphere.
  - 3.2 List **three (3)** functions of **each** lobe of the brain.
  
4. Explain the following ,
  - a) Dreaming is more frequent during the second half of the night.
  - b) A middle aged man is able to have erections during coitus with his mistress but not with his wife.
  - c) Episodic visual hallucinations in a soldier who has suffered a penetrating head injury.
  
5. Discuss the **usefulness** of the following in psychiatry.
  - a) Genetics
  - b) Neuroimaging
  - c) Statistics
  
6. Discuss the **differences** between
  - a) primary and secondary delusions
  - b) deja vu and derealization
  - c) flashbacks and hallucinations
  - d) catatonia and coma
  
7. What **advice** would you give to a patient and his relatives when you **prescribe** the following drugs ?
  - a) Carbamezapine
  - b) Clozapine
  - c) Disulfiram

8. Write **short notes** on the following
- a) Acetylcholine
  - b) Dopamine
  - c) Serotonin
9. List the **aetiology, pathological changes** and **clinical features** of the following conditions.
- a) Wernicke - Korsakoff syndrome
  - b) Multi- infarct dementia
- 10.
- 10.1 Describe briefly the following
- a) Mean
  - b) Variable
  - c) Normal distribution
- 10.2 In a sample of 100 people the mean fasting blood sugar level was 80.0g/dl with a standard deviation of 2.5. The mean blood sugar level in the general population is 79.0g/dl. Calculate the significance of the difference between the two means.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIA TRY) PART I EXAMINATION**  
**SEPTEMBER, 2001**

Date: 17<sup>th</sup> September, 2001

Time: 1.30 p.m – 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer Part A and Part B in separate books.**

**PART A**

1. A young female garment worker is referred to the outpatient clinic with a history of weight loss and appetite loss. On examination she appears thin.
  - a) **List five** features in the **history** that would be important in arriving at a possible **diagnosis**.
  - b) Suggest **three, investigations** you might do. Give **reasons**.
  - c) If no apparent cause is found for her symptoms after the initial evaluation **outline** her **follow-up management**.
  
2. A 45 year old female complains of weakness, lethargy and breathlessness developing gradually over a period of three months. On general examination she appears very pale and has bilateral ankle oedema.
  - a) **List five (5) other** clinical features you would look for in this patient to arrive at a diagnosis
  - b) **Name five** investigations you would do. **Give reasons**.

**PART B**

3. 3.1 **Draw and label** the anatomical organization of the visual pathways in the brain.
- 3.2 In the above diagram indicate **three sites** where a lesion would produce visual field defects. Name the visual field defects you have indicated.

4. **Explain** the following :
- a) A person developing a seizure while watching television.
  - b) Memory impairment in a person with chronic alcohol use.
  - c) Wandering out of the bedroom while asleep.
5. **Write notes** on the following :
- a) Defence mechanisms
  - b) Attachment
  - c) Emotion
6. **Discuss the differences** between
- a) obsessions and phobias
  - b) illusions and hallucinations
  - c) fugue and stupor
7. **Compare and contrast the side effects** of the following drugs :
- a) Imipramine and fluoxetine
  - b) Chlorpromazine and clozapine
8. **Write notes** on the following :
- a) Prostaglandins
  - b) Cholesterol
  - c) GABA (gamma aminobutyric acid)
9. **List the pathological changes and the clinical features** of the following conditions.
- a) Punch-drunken syndrome
  - b) Hydrocephalus
10. An experiment was done to determine whether exposure to a certain chemical was a cause of peripheral neuropathy. One hundred (100) patients with peripheral neuropathy and 100, age and sex - matched normal people were questioned about their exposure to the chemical.

Of the 100 patients 60 had exposure to the chemical. Of the controls 45 subjects had exposure to the chemical.

Calculate the risk of peripheral neuropathy on exposure (**observed risk**) to the chemical.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIA TRY) PART I EXAMINATION**  
**MAY, 2002**

Date: 14<sup>th</sup> May, 2002

Time: 1.30 p.m – 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer Parts A, B, C, and D in separate books.**

**PART A**

1. You are asked to assess a patient who has recently had an **ischaemic stroke**.
  - 1.1. What are the **neurological** features you would consider in evaluating the **severity** of the stroke ?
  - 1.2. What other factors **apart** from neurological features would you consider in assessing the **prognosis** ?
  - 1.3. Discuss briefly the **rehabilitative** aspects of stroke management.
  
2. A 40 year old female is referred for evaluation of **anaemia**.
  - 2.1. Explain how a full blood count and a blood picture would help you in finding out the **cause** of the anaemia.
  - 2.2. If the blood picture suggests **iron deficiency anaemia** what features in the history would you like to elucidate from her ?
  - 2.3. What would be the **indications** for blood transfusion and what **precautions** would you take during transfusion ?

**PART B**

3.
  - 3.1. Describe briefly, using diagrams, the developmental organization of the human brain.
  - 3.2. **Draw and label** the structures in a cross section at the level of the upper pons

4. Explain the possible basis of the following :
  - 4.1 A goldsmith who had been dependent on alcohol is unable to carry on with his work as he could not remember the amount of gold he had to use in making jewellery.
  - 4.2 A 3 year old child who had been punished in her nursery school shows infant behaviour.
  - 4.3 A woman who's son has died in a train accident continues to act as if her son still alive.
  - 4.4 A 16 year old boy who assaults his mother periodically claims that he has no control over his behaviour.
  
5. Explain the psychological basis of the following :
  - 5.1 You are more likely to remember the names of your first grade class mates if you were to visit the class room.
  - 5.2 You are more like to remember a series of 10 numbers if they were arranged in a sequence rather than randomly.
  - 5.3 A man fallen on a crowded road is less likely to receive help than if he was on a less crowded road.
  - 5.4 A university lecturer is able to give a lecture more effectively when the lecture hall is full.

### **PART C**

6. Write **short notes** on the following :
  - 6.1 Sick role
  - 6.2 Illness behaviour
  - 6.3 Social class
  - 6.4 Labelling

7. Describe the **neuropathological** changes of the following :
  - 7.1. Creutzfeldt - Jakob's disease
  - 7.2. Wilson's disease
  - 7.3. Alzheimer's disease
  
8.
  - 8.1. Describe the process of **social development** in childhood.
  - 8.2. Discuss the **outcome**, if this process is disrupted or fails to take place.

### **PART D**

9. Describe the precautions you would take **prior to prescribing** the following :
  - 9.1. Lithium
  - 9.2. Clozapine
  - 9.3. Imipramine
  
10.
  - 10.1. A study done on 50 patients with myocardial infarction and 50 control subjects on their habits of smoking revealed that 35 of the patients with myocardial infarction and 25 control subjects were smokers.
    - 10.1.1. Prepare a 2 x 2 table for the above study.
    - 10.1.2. Demonstrate statistically whether there is a significant association between smoking and myocardial infarction.
  
  - 10.2. Draw scatter diagrams to illustrate the following correlation coefficients.
    - 10.2.1.  $r = +1$
    - 10.2.2.  $r = -1$

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIA TRY) PART I EXAMINATION**  
**OCTOBER, 2002**

Date: 15<sup>th</sup> October, 2002

Time: 1.30 p.m – 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer Parts A, B, C, and D in separate books.**

**PART A**

1. A middle aged male is admitted to hospital with acute onset quadriparesis
  - 1.1. Write four (4) possible causes for his illness.
  - 1.2. Describe how you would differentiate clinically whether the patient has upper or lower motor weakness.
  - 1.3. Write four (4) investigations that would be useful. Give reasons.
  - 1.4. Name two (2) complications that this patient might develop.
  
2. A patient with alcohol dependence is admitted to hospital with a history of mental confusion over a period of four days
  - 2.1. List the clinical features on examination, which would indicate that the patient has cirrhosis of the liver.
  - 2.2. List the clinical features which would indicate that he has hepatic encephalopathy.
  - 2.3. Write three (3) complications the patient might develop if he is found to have cirrhosis and hepatic encephalopathy.
  - 2.4. Describe the management of hepatic encephalopathy.

## PART B

3.
  - 3.1. Draw a lateral view of the superolateral surface of the left cerebral hemisphere.
  - 3.2. **Indicate and name** in the above diagram the important sulci, gyri and functional areas.
  - 3.3. Describe the function of each of the functional areas which you have named.
  
4. Write short notes on the **psychopathological** basis of the following.
  - 4.1. Obsessions and compulsions.
  - 4.2. Primary delusions.
  - 4.3. Confabulation.
  - 4.4. Dissociative amnesia.
  
5. Briefly describe the **neuropathological** changes seen in the following.
  - 5.1 Schizophrenia.
  - 5.2. Lewy body disease.
  - 5.3. Huntington chorea.
  - 5.4. Viral encephalitis.

## PART C

6. Using **psychological** principles explain how you would carry out the following.
  - 6.1. Remove a fear of furry toys in a three (3) year old child.
  - 6.2. Teach a child with mental handicap to brush his teeth.
  - 6.3. Train a pet dog to jump through a hoop.
  
7.
  - 7.1. List the routes of drug administration.
  - 7.2. What are the major mechanisms of absorption of drugs after oral administration ?
  - 7.3. Describe the factors which influence the absorption of drugs after oral administration.
  - 7.4. List the organs involved in the excretion of drugs.
  - 7.5. Outline the factors involved in renal clearance.

8. Write notes on the following.

8.1 Sodium valproate.

8.2 Olanzapine.

8.3 Disulfiram.

### PART D

9. Write an essay on the '**fight-flight**' response.

10.

10.1. Draw a diagram to explain the classification of variables.

10.2. Define three (3) methods used to measure central tendency.

10.3. A study was done to assess the risk of oral cancer in subjects who chew betel.

There were 100 subjects who chewed betel of whom 20 were found to have oral cancer. Among 100 age matched control subjects 5 were found to have oral cancer.

Calculate the **relative risk** of developing oral cancer in people who chew betel.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIA TRY) PART I EXAMINATION**  
**MAY, 2003**

Date: 20<sup>th</sup> May, 2003

Time: 1.30 p.m – 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer Parts A, B, C, and D in separate books.**

**PART A**

1. A 54 year old male developed sudden weakness and numbness of his right hand followed by difficulty in talking. This episode lasted only about five minutes with complete recovery. When questioned he recollected similar somewhat less pronounced Symptoms a few weeks prior to the present episode. He had been previously well but is on regular medication for hypertension.
  - 1.1 What is the most likely diagnosis ?
  - 1.2 What **differential diagnosis** would you consider and how would you attempt to rule out other diagnoses clinically ?
  - 1.3 Suggest **three (3)** important **physical signs** that you would look for in this patient on clinical examination.
  - 1.4 Giving reasons name **three (3) investigations** you would do on this patient.
  
2. A 25 year old female is admitted to hospital with fever and vomiting On examination she is icteric and drowsy. There are no focal neurological signs.
  - 2.1 Name **four (4) likely causes** for her clinical condition.
  - 2.2 Discuss the **clinical features** that would **differentiate** the causes you mentioned.

- 2.3 List the **investigations** you would do to
  - 2.3.1 confirm the diagnoses you mentioned.
  - 2.3.2 to assess the severity of the illness.

## **PART B**

- 3.
  - 3.1 Draw and label a **sagittal** section of the human brain.
  - 3.2 Briefly describe the **structures** you have named.
  
- 4. Describe the **neuropathological** features and **aetiology** of the following.
  - 4.1 hydrocephalus
  - 4.2 Wilson's Disease
  
- 5. Write **notes** on the following :
  - 5.1 conditioning
  - 5.2 memory
  - 5.3 attitudes

## **PART C**

- 6. Write **notes** on the following:
  - 6.1 social class
  - 6.2 life events
  - 6.3 Mendelian inheritance
  
- 7. Write **notes** on the following:
  - 7.1 moclobemide
  - 7.2 fluoxetine
  - 7.3 risperidone
  
- 8. Discuss **four mechanisms** of headache.

## PART D

9. Explain the **most likely psychopathological** basis of the following :
- 9.1 A 45 year old man complains that there are insects crawling under his skin.
  - 9.2 A man after a head injury which was followed by a period of loss of consciousness complains that he cannot remember some of the events **following** the injury.
  - 9.3 A person on going into a room to which she has never been before experiences a feeling of familiarity. .
  - 9.4 A 16 year old girl hears the voice of God through the sound of an open Water tap.
- 10.
- 10.1 Define the term '**standard error of the mean**'. Explain its uses.
  - 10.2 Describe the methods used to find out the '**central tendency**' of a set of data.
  - 10.3 Describe **multistage random sampling** using an example.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**OCTOBER, 2003**

Date: 14<sup>th</sup> October, 2003

Time: 1.30 p.m – 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer Parts A, B, C, D and E in separate books.**

**PART A**

1. A 50 year old male is admitted to hospital with deteriorating level of consciousness. On examination he has bilateral extensor plantar responses.
  - 1.1 What precautions would you take prior to performing a CSF examination on this patient ? (25 marks)
  - 1.2 Discuss the clinical significance of the extensor plantar response. (25 marks.)
  - 1.3 How would you monitor this patient neurologically in the acute stage ? (35 marks)
  - 1.4 Apart from the CSF examination suggest three (3) other relevant investigations. (15 marks)
  
2. A 45 year old male is referred to a medical clinic with symptoms of poor appetite and weight loss. The letter of referral suggests the possibility of chronic alcohol abuse but the patient denies this.
  - 2.1 What questions would you ask this patient to find out if there is a possibility of alcohol abuse ? (30 marks)
  - 2.2 What aspects of physical examination would support this possibility ? (50 marks)
  - 2.3 Suggest investigations that may help in diagnosis of chronic alcohol abuse. (20 marks)

## **PART B**

3. Describe Piaget's four stages of cognitive development. (100 marks)
4. Explain the psychological basis of the following.
  - 4.1 Doctors are more likely to marry doctors than accountants. (50 marks)
  - 4.2 School children who took part in a project to develop counter messages to cigarette advertisements were less likely to smoke than those who did not. (50 marks)

## **PART C**

5. Discuss the pharmacological basis of action of the following drugs.
  - 5.1 L-Dopa in Parkinson's disease (50 marks)
  - 5.2 Benzodiazepines in alcohol withdrawal (50 marks)
6. Write short notes on :
  - 6.1 Therapeutic index. (50 marks)
  - 6.2 Lithium carbonate (50 marks)

## **PART D**

7.
  - 7.1 Briefly describe the types of hallucinations. (60 marks)
  - 7.2 List the conditions other than schizophrenia and mood disorders where hallucinations occur. (10 marks)
  - 7.3 Briefly describe the hallucinations that occur in depressive disorders. (30 marks)
8. Describe the types of studies that have been carried out to establish the genetic basis of schizophrenia. (100 marks)

## PART E

9. 9.1 List the components of the limbic system. (20 marks)
- 9.2 Describe the position and the connections of the hypothalamus. (80 marks)
10. 10.1 A researcher intends to find out if oral contraceptives cause breast cancer. Discuss the advantages and disadvantages of carrying out
- i. a prospective study
  - ii. a case - control study to investigate this problem. (60 marks)
- 10.2 In a prospective study, 18 women out of a total of 50 who were using oral contraceptives were found to have developed breast cancer while only 06 women who did not use oral contraceptives had developed the illness. A total of 100 women were followed up in this study.
- Calculate the relative risk of developing breast cancer in women who use oral contraceptives. (40 marks)

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (PSYCHIATRY) PART I EXAMINATION**  
**JUNE, 2004**

Date: 14<sup>th</sup> June, 2004

Time: 1.30 p.m – 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer each question in a separate book.**

1. A 52 year old female was brought to hospital in a confused state. The relatives who brought her said that she was on lithium carbonate for a mental illness.

On examination the patient was disorientated, pupils were normal in size and equal and fundi were normal. She was afebrile, pulse 80/minute, regular, blood pressure 100/70 mmHg. The laboratory investigations are given below. (normal values are given within brackets)

Haemoglobin 14g/dl	(12 - 15.5 g/dl)
WBC $10 \times 10^9/l$	(4 - $11 \times 10^9/l$ )
Random Blood Sugar 6mmol/l	(3.3 - 6.3 mmol/l)
Serum Sodium 144 mmol/l	(135 - 146mmol/l)
Serum Potassium 4mmol/l	(3.5 - 5.0mmol/l)
Urea 13 mmol/l	(2.5- 6.7mmol/l)
Bicarbonate 20mmo/l	(28 - 35mmol/l)
Chloride 106mmol/l	(95 - 100mmol/l)
Calcium 2.4 mmol/l	(2.1 - 2.8 mmol/l)
Phosphate 1.4 mmol/l	(0.8 -1.5 mmol/)
Bilirubin 12 $\mu$ mol/l	(5 - 15 $\mu$ moVl)
TSH 35 mU/ml	(0.4 - 4.0mU/ml)
Urine Full Report- no protein, 1 - 3 pus cells/hpf, no sugar, no casts	
Plasma osmolality 333mOsm/Kg	(275 - 295 mOsm/Kg)
Urine Osmolality 160 mOsm/l	(300 -1000 mOsm/l)

- 1.1. Explain the abnormal laboratory findings. (20 marks)
- 1.2. Give an explanation for the high plasma osmolality and low urine osmolality. (20 marks)
- 1.3. What neurological features might you expect on clinical examination ? (20 marks)
- 1.4. Give important steps in the immediate management of this patient. (40 marks)

2. A 50 year old female presents with a history of unilateral headache. Patient had been treated for migraine but her headache appeared to get worse.
- 2.1. Name four features in the history that would indicate a diagnosis of migraine. (30 marks)
- 2.2. List four other causes of unilateral headache giving one characteristic Feature for each condition you mentioned. (40 marks)
- 2.3. Briefly discuss the prophylactic treatment of migraine. (30 marks)
- 3.
- 3.1. Briefly describe Argyll Robertson Pupil. (40 marks)
- 3.2. By using a **detailed schematic diagram** indicate the neuronal tracts involved and the site of lesion of the above (60 marks)
- 4.
- 4.1. List and define types of prevention. (25 marks)
- 4.2. Categorise the following activities into the types of prevention you have stated. Give reasons. (75 marks)
- (i) Provision of free needles and syringes to heroin users.
- (ii) Screening for cervical cancer using Pap smear.
- (iii) Screening for Phenylketonuria in newborns.
5. Describe the reasons for the following phenomena.
- 5.1. Acute alcohol intoxication causes hypoglycaemia
- 5.2. Acupuncture is useful in the management of pain.
- 5.3. Females and older men are less likely to become muscular because of weight training though they become stronger.
6. Explain the therapeutic and side effects of chlorpromazine based on its action at receptors.

7. Describe the psychopathology, including disturbances of cognitive functions, you may elicit in
  - 7.1. delirium
  - 7.2. catatonic schizophrenia.
  
8. Monkeys used in Harlow's experiment showed profound disturbances when the time came for mating. Explain the basis of such findings.
  
9. Explain the psychological basis of the following –
  - 9.1. A man who has stopped using alcohol after heavy use for two years gets an urge to drink when he passed a bar.
  - 9.2. A medical student who was unable to answer questions at a viva was able to recall the answers to the same questions afterwards.
  - 9.3. An athlete produced better timings in the 100m sprint at competition than when she ran alone just prior to the meet.
  
10. A clinical trial has found that a new antidepressant is more effective than imipramine in the treatment of depression. The trial was conducted on a group of depressed patients followed up in an out patient clinic.

Briefly describe the factors you would consider in deciding if the results of this therapeutic trial are valid.

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**  
**JUNE, 2005**

Date :- 13<sup>th</sup> June, 2005

Time :- 1.30 p.m. - 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer each question in a separate book.**

1.
  - 1.1. By using a schematic diagram, describe the auditory pathway. (40 marks)
  - 1.2. Briefly describe the relevance of auditory perception in mental health. (60marks)
  
2. Explain the neurophysiological basis of the following.
  - 2.1. Somatic symptoms of anxiety (25 marks)
  - 2.2. Chronic stress and cardiovascular disease (25 marks)
  - 2.3. Memory loss in dementia (25 marks)
  - 2.4. Sleep disturbances associated with shift work (25 marks)
  
3. Briefly describe the actions of the following substances on the receptors of the central nervous system.
  - 3.1 Ethanol (25 marks)
  - 3.2 Risperidone (25 marks)
  - 3.3 Moclobemide (25 marks)
  - 3.4 Morphine (25 marks)
  
4. Discuss difficulties you may encounter in eliciting psychopathology in children compared to an adult. (100 marks)

5.
  - 5.1. Define the term consciousness (20 marks)
  - 5.2. Describe the different dimensions of consciousness (30 marks)
  - 5.3. Briefly describe different pathological states of consciousness and their causes (50 marks)
  
6.
  - 6.1. Describe the cerebra-spinal fluid (CSF) production and its circulation. (45 marks)
  - 6.2. State the CSF changes observed in pyogenic meningitis (40 marks)
  - 6.3. List three contraindications to perform lumbar puncture (15 marks)
  
7. Describe the psychopathology, including disturbances of cognitive functions, you may elicit in,
  - 7.1. a 15 year old school boy with post traumatic stress disorder following the tsunami (50 marks)
  - 7.2. a 65 year old man with vascular dementia (50 marks)
  
8. A study tests the relationship between level of aggression of preschool children and the use of physical punishment by their mothers. Questionnaire scores from 0-10 were obtained for use of physical punishment. Level of aggression was scored from observation of behaviour in the playground. A correlation of 0.6 was found between the two sets of scores.
  - 8.1. Define correlation and explain this finding (30 marks)
  - 8.2. Explain what you understand by the terms "Reliability" and "Validity" of the questionnaire used (40 marks)
  - 8.3. Discuss the ethical issues involved in this study (30 marks)
  
9. A 60 year old depressed woman is on treatment with fluoxetine. She presents with muscle cramps and intermittent disorientation. Her serum electrolytes estimation shows the following.
 

Serum sodium 118 mmol/L (135-146 mmol/L)  
 Serum potassium 4.2 mmol/L (3.5-5.0 mmol/L)  
 Serum chloride 98 mmol/L (95-100 mmol/L)

- 9.1. State the most likely cause for the above findings (20 marks)
  - 9.2. List two other clinical features you would expect to find in this patient (20 marks)
  - 9.3. List two risk factors for the above finding (20 marks)
  - 9.4. Describe briefly how you would manage this patient's current condition (40 marks)
- 10.
- 10.1. Explain what is meant by seizure disorders (20 marks)
  - 10.2. Briefly describe the classification of seizure disorders (20 marks)
  - 10.3. Describe the symptoms of one of the conditions you mentioned in 10.2 (20 marks)
  - 10.4. Briefly state the management of the condition mentioned in 10.3 (40 marks)

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIA TRY) PART I EXAMINATION**  
**JUNE, 2006**

Date: 12<sup>th</sup> June, 2006

Time: 1.30 p.m – 4.30 p.m.

**ESSAY PAPER**

**Answer all 10 questions.**

**Answer each question in a separate book.**

1. Describe the pathophysiological basis of the following clinical observations
  - 1.1. An anxious patient complains of numbness and tingling in the extremities of her limbs. (35 marks)
  - 1.2. A middle-aged, heavy smoker complains of a "sore throat" the day after stopping smoking (30 marks)
  - 1.3. A 58-year-old man with phaeochromocytoma complains of palpitations and headache shortly after micturition. (35 marks)
  
2. A 30-year-old woman presents with clinical features suggestive of depression of 3 months duration. She gives a past history of thyroid surgery.
  - 2.1. Name 2 conditions that develop following thyroid surgery, which could cause depression in this patient. (20 marks)
  - 2.2. Describe the pathogenesis of these conditions. (40 marks)
  - 2.3. List two physical signs you would look for, to support each of your diagnoses. (20 marks)
  - 2.4. Name one confirmatory investigation for each condition. (10 marks)
  - 2.5. Name one effective medication for each condition. (10 marks)

- 3.
- 3.1 With the help of diagrams describe the cerebral circulation (60 marks)
- 3.2 Illustrate the blood supply to the internal capsule using diagrams. (40 marks)
4. Explain the most likely psychopathological basis of the following :-
- 4.1. A 22 year old house wife presents with sudden onset paralysis of both upper limbs and investigations reveal no organic aetiology.
- 4.2. A 38 year old female in Saudi Arabia hears her husband who is in Sri Lanka talking with his neighbours.
- 4.3 A 56 year old male repeats the same answer for several different subsequent questions. (each part carries equal marks)
5. A study compared the health of 6000 vegetarians and a similar number of their friends and relatives who were not vegetarians. The vegetarians had a 28% lower death rate from ischemic heart disease and a 35% lower death rate from cancer.
- 5.1. Is this an observational study or a randomized experiment ? **Give reasons.** (50 marks)
- 5.2 On the basis of this information can we conclude that a vegetarian diet causes lower death rates from ischemic heart disease and cancer? **Give reasons.** (50 marks)
6. Explain the difference between.
- 6.1. a delusion and an overvalued idea.
- 6.2. imagery and visual hallucinations.
- 6.3. mannerisms and stereotypies. (each part carries equal marks)

7. Explain the psychopharmacological basis of how atypical antipsychotics
- 7.1. have low extrapyramidal side effects (50 marks)
  - 7.2. improve negative symptoms (50 marks)
8. Describe the action of the following drugs on neuroreceptors
- 8.1. Chlordiazepoxide (25 marks)
  - 8.2. Venlafaxine (25 marks)
  - 8.3. Buspirone (25 marks)
  - 8.4. Pethidine (25 marks)
9. Explain the psychological basis of the following
- 9.1. A programme was devised to reduce the frequency of crying of an infant when put to bed. The mother was advised to allow the child to cry for 3 minutes and then pick her up if the crying did not stop. After the programme was initiated, an increase in the frequency of crying was noted. (50 marks)
  - 9.2. A 4 year old child who hits his younger sister is punished for his bad behaviour after the mother returns home from work. Although he has been repeatedly punished he still continues to hit his sister. (50 marks)
10. Discuss the importance of emotions in mental health. (100 marks)

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**

**JUNE 2007**

Date : 11<sup>th</sup> June 2007

Time : 1.00p.m. – 4.00p.m.

**Answer all 10 questions.**

**Answer each question in a separate book.**

**ESSAY PAPER**

1.

1A. An 18-year-old man is brought by the family because of abnormal behaviour. He had been complaining of fever, headache and anorexia for the last 4 days and becoming withdrawn and "talking nonsense" on the day of presentation. His past medical history is unremarkable. He is a schoolboy and had visited a home of one of his classmates in Anuradhapura about 2 weeks ago. He does not consume alcohol or drugs.

On examination he is febrile and confused. There is no neck stiffness, focal signs or papilloedema.

1A.1. List two (2) conditions that you would immediately suspect in this patient. (10 marks)

1A.2. Describe how you would investigate the patient (giving expected results) with a view to confirming or excluding the two (2) conditions you have mentioned in 1.1. above. (30 marks)

1A.3. Describe one specific therapy that you would administer empirically for each of the two (2) conditions mentioned in 1.1. above. (30 marks)

1B. Briefly describe the steps you would take in the general management of an unconscious patient. (30 marks)

2. Describe the pathophysiological basis of the following :-
- 2.1 A patient who abuses alcohol chronically has an increased possibility *of* suffering from Wernicke encephalopathy if intravenous dextrose alone is administered. (40 marks)
- 2.2 In a patient with a pheochromocytoma, the blood pressure is further increased by the administration *of* certain antihypertensive drugs. (40 marks)
- 2.3 In a patient with chronic kidney disease, the symptoms of anaemia are worsened following the administration of intravenous sodium bicarbonate. (20 marks)
- 3.
- 3.1. Describe the phenomenon of depersonalization (40 marks)
- 3.2. List four (4) clinical conditions in which this phenomenon is encountered. (20 marks)
- 3.3. List **five (5) appropriate** investigations that you would consider in a patient who experience this phenomenon **giving reasons**. (40 marks)
4. A 44 year old mother with four children complains episodes of tightness of chest and difficulty in breathing associated with fear of death.
- 4.1. List five (5) differential diagnoses. (20 marks)
- 4.2. What clinical features that would suggest this presentation is of psychological origin rather than organic in nature ? (40 marks)
- 4.3 Describe the relevant laboratory investigations in this patient. (40 marks)
5. Describe the psychological basis *of* reward and punishment in behaviour modification. (100 marks)

6. Write short notes on following concepts in relation to practice of psychiatry
- 6.1. Zero order kinetics (25 marks)
  - 6.2. Bioavailability (25 marks)
  - 6.3. QT (C) interval (25 marks)
  - 6.4. Therapeutic window (25 marks)
7. Briefly describe the **modes of action** and **common side effects** of the following drugs :-
- 7.1. Clozapine (25 marks)
  - 7.2. Disulfiram (25 marks)
  - 7.3.. Rivastigmine (25 marks)
  - 7.4. Clomipramine (25 marks)
8. Write an essay on defence mechanisms. (100 marks)
- 9.
- 9.1. Draw and label a coronal section of the brain illustrating the basal ganglia and its anatomical relations. (60 marks)
  - 9.2. Describe the functions of basal ganglia. (40 marks)
10. Write notes on :
- 10.1. Evidence-based medicine. (40 marks)
  - 10.2. Qualitative research in psychiatry. (20 marks)
  - 10.3. Post-marketing surveillance of a drug (40 marks)

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**MD (PSYCHIATRY) PART I EXAMINATION**

**JULY 2008**

Date: 07<sup>th</sup> July 2008

Time: 1.00 p.m. - 4.00 p.m.

**Answer all 10 questions.**

**Answer each question in a separate book.**

**ESSAY PAPER**

1. Write short notes on the following:
  - (a) Broca's speech area
  - (b) Holmes-Adie pupil
  - (c) Bell's palsy
  - (d) Sensory innervation of the face
  - (e) Brown-Sequard syndrome (20 marks each)
  
2. A 38 year old mother threw away the milk prepared for her child several times prior to feeding as she feared that she had contaminated the milk.
  - (a) What is the most likely condition this mother has ? (20 marks)
  - (b) List five other symptoms of this condition. (30 marks)
  - (c) What are the psychological principles that can be applied in her management. (50 marks)
  
3. Discuss the psychopathological basis of the following conditions.
  - (a) A 32 year old husband claimed that his wife has been replaced by an imposter who looks exactly like her.
  - (b) A 42 year old teacher heard somebody calling her whenever she saw the principal closing the door.
  - (c) A 16 year old girl is convinced that her tuition master is in love with her although the he has never spoken directly to her, and does not respond to her letters.
  - (d) A 30 year old male whose father died of myocardial infarction 3 months back, gets repeatedly admitted to a medical ward with complaints of chest pain. Relevant investigations are found to be normal.
  - (e) A 35 year old male who was admitted to the surgical ward following a road traffic accident a few days back claims that he could see an elephant in the fish tank kept in the ward. (20 marks each)

- 4.
- (a) Describe the term "group polarization". (20 marks)
  - (b) Describe the potential dangers of group decision making and ways to overcome it. (40 marks)
  - (c) How do minorities succeed in influencing majorities ? (40 marks)
- 5.
- (a) Describe the physiological variables that determine the cardiac Output. (20 marks)
  - (b) A 25-year old man was admitted in cardiogenic shock following a drug overdose. He had been followed up for depression with symptoms of anxiety, and had been on amitriptyline, propranolol, diazepam, vitamin B complex and calcium lactate. The family members stated that he had taken the overdose of the above drugs about 6 hours earlier.
    - (i) Briefly describe the possible role that each drug may have played in the pathogenesis of this patient's cardiogenic shock (20 marks)
    - (ii) Outline the steps you would take in his immediate management. (30 marks)
    - (iii) explain the physiological basis for each of the steps you have outlined above (30 marks)
6. Write notes on the following:
- (a) Phase 3 trials (30 marks)
  - (b) Twin studies (30 marks)
  - (c) Population screening (40 marks)
7. Describe the pathophysiological basis of the following:
- (a) The dietary recommendations in acute hepatic encephalopathy (30 marks)
  - (b) The precautions on administering oxygen to patients with chronic obstructive pulmonary disease (30 marks)
  - (c) The administration of intravenous thiamine to patients who are unconscious. (40 marks)

8. Benzodiazepines are commonly used drugs
- (a) Describe the mode of action of these drugs. (10 marks)
  - (b) Name 2 long acting and 2 short acting benzodiazepines (20 marks)
  - (c) List the side effects of benzodiazepines (20 marks)
  - (d) Describe the features of benzodiazepine withdrawal (20 marks)
  - (e) Outline the management of benzodiazepine withdrawal (30 marks)
9. A patient who is being treated with lithium presents with the following complaints. Outline the steps that you would take for each complaint, giving reasons.
- (a) a serum lithium level of 1.5 mmol/l
  - (b) fine tremor
  - (c) increased hair loss, hoarse voice and constipation
  - (d) period of amenorrhoea of 6 weeks duration
  - (e) diarrhoea
- (20 marks each)
10. Describe the physiological mechanisms of
- (a) (i) Symptoms in anxiety (30 marks)
  - (ii) The male sexual response (30 marks)
  - (b) Describe with the aid of a diagram the effect that anxiety has on the male sexual response. (40 marks)

**POSTGRADUATE INSTITUTE OF MEDICINE**  
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**SELECTION EXAMINATION IN MD (PSYCHIATRY)**  
**JULY 2009**

Date :7<sup>th</sup> July 2009

Time : 1.00 pm. - 4.00 p.m.

Answer **all 10** questions  
Answer **each question in a separate book.**

**ESSAY PAPER**

1. Write short notes on the following :
  - (a) arterial supply of the brain
  - (b) reticular formation

(50 marks each)
  
2. A patient with schizophrenia currently on treatment with anti-psychotics complains of the following. Indicate the condition, describe the pharmacological basis and outline the steps you would take in the management of these conditions :
  - (a) repetitive involuntary movements of the face and mouth
  - (b) inability to stay still

(50 marks each)
  
3. Briefly describe the modes of action and common effects of the following drugs / substances:
  - (a) olanzapine
  - (b) sodium valproate
  - (c) fluoxetine
  - (d) heroin

(25 marks each)

4. Describe the possible psychopathological explanations for the following:
- (a) A 75 year old lady remembers guests who attended her wedding but forgets what she had for breakfast. (10 marks)
  - (b) A 45 year old man who has shown a change in his behavior for the last one month claims that he suddenly realized there was a plot to kill him 20 years ago. (20 marks)
  - (c) A young male repeatedly gets himself tested for HIV following an unprotected sexual encounter. (30 marks)
  - (d) A young female claims that she sees no image when she looks at a mirror. (20 marks)
  - (e) A recently widowed lady claims that she heard her dead husband talking to her. (20 marks)
- 5.
- (a) A 45 year old male with a diagnosis of schizophrenia is brought for assessment. He has been ill for ten years and his family states that it is difficult to communicate with him. Describe the features of thought disorder that you may see in this patient. (50 marks)
  - (b) A 35 year old woman with a diagnosis of bi-polar affective disorder has had several episodes of illness in the last seven years. Describe the psychopathology that you would expect to see in the different episodes of this illness. (50 marks)
6. Explain the neurophysiological basis of the following :
- (a) motor symptoms in Parkinson disease (30 marks)
  - (b) somnambulism (30 marks)
  - (c) addictive behavior in humans (40 marks)
7. Write short notes on the following :
- (a) Bowlby's attachment theory
  - (b) sexual orientation
  - (c) Gate control theory of pain
  - (d) Cognitive dissonance theory
- (25 marks each)

8. Discuss the use (including the pharmacological basis) of the following treatments in cirrhosis of the liver.
- (a) Furosemide (frusemide) and spironolactone in combination, for ascites.
  - (b) Lactulose for acute hepatic encephalopathy. (50 marks each)
9. A 65-year-old man was brought by his family because of drowsiness and confusion for about 2 days. He had had headache and anorexia for about 2 months, and tests done by his general practitioner had shown a normal full blood count, blood picture and fasting blood glucose, with an ESR of 90 mm. He had a past history of hypertension for which he was taking atenolol 50 mg daily, and had smoked heavily.

Examination showed a conscious, drowsy and confused patient with mild dehydration and neck stiffness. There were no focal neurological signs or papilloedema. An urgent computed tomogram of the head was normal, and lumbar puncture was done. The cerebrospinal fluid (CSF) report was as follows (random blood glucose 80 mg/dl) :

Appearance	clear, colourless
Protein	110 mg/dl (normal < 40 mg/dl)
Glucose	20 mg/dl (normal 0.5-0.66 of blood glucose)
Cells	80/mm <sup>3</sup> (normal < 5/mm <sup>3</sup> , all mononuclear)
Differential count	100% mononuclear cells

- (a) What is the most likely diagnosis ? (10 marks)
  - (b) List one laboratory test to confirm the above diagnosis. (10 marks)
  - (c) Briefly describe the treatment of the above diagnosis. (20 marks)
  - (d) Explain the pathophysiological basis of each of the CSF abnormalities given above. (20 marks)
  - (e) What abnormality would you expect to see in this patient's serums electrolytes, and what is the pathophysiological basis for this abnormality ? (20 marks)
  - (f) Briefly describe the long term sequelae in the nervous system that can result from this condition. (20 marks)
10. Write short notes on the following :
- (a) The use of surrogate markers to measure outcome in clinical trials. (30 marks)
  - (b) Clinical trials registry (30 marks)
  - (c) Normal distribution. (40 marks)

**POSTGRADUA E INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**SELECTION EXAMINATION IN MD (PSYCHIATRY)**

**JULY 2010**

Date:- 14<sup>th</sup>July2010

Time : 1.00 p.m.-4.00 p.m.

**Answer all 10 questions.**

**Answer each question in a separate book.**

**ESSAY PAPER**

1. A 55 year old man was admitted with fever, confusion and mild abdominal pain for four days. He has cirrhosis of the liver for five years, complicated by ascites and diabetes mellitus for three years. He is on propranolol, iso-sorbide mononitrate, furosemide, spironolactone and gliclazide. He had been consuming excess amounts of alcohol previously but had stopped when he was diagnosed with cirrhosis. On examination, he is confused and drowsy with flapping tremors, gynaecomastia and a few spider naevi. Abdominal examination shows ascites and splenomegaly. The cardiovascular, respiratory and neurological examinations are otherwise normal.
  - (a) List **two** tests that you would do immediately. (10 marks)
  - (b) List **two** conditions related to **liver pathology** that explain his hepatic encephalopathy. (10 marks)
  - (c) List **two** further tests that you would do to confirm the two conditions you had mentioned in (b) above and state abnormalities you would expect in each. (20 marks)
  - (d) List **two** drugs that you would prescribe awaiting the results of these tests and outline the mode of action of each drug in this situation. (30 marks)
  - (e) Briefly describe the pathogenesis of ascites in the liver. (30 marks)
  
2. Write short notes on the following :
  - (a) complex partial seizures (50 marks)
  - (b) side effects of long-term use of glucocorticoids (50 marks)

3. Compare the following ;
- (a) pseudo-hallucinations and hallucinations. (30 marks)
  - (b) functional hallucinations and reflex hallucinations (30 marks)
  - (c) delusions and overvalued ideas (40 marks)
4. Describe the theories that explain the following psychopathological phenomena:
- (a) phobias (30 marks)
  - (b) obsessions and compulsions (30 marks)
  - (c) paranoid delusions (40 marks)
5. Explain the psychological basis of the following:
- (a) A person in need of emergency aid would have a better chance of getting help if a single bystander were present rather than a crowd. (30 marks)
  - (b) Cyclists in a race perform better when they race against each other rather than when they race against the clock. (30 marks)
  - (c) A person who is held prisoner for several years comes to believe in the ideology of his captors (40 marks)
- 6.
- (a) Explain the term ‘defence mechanisms’. (40 marks)
  - (b) Explain the defence mechanisms used in the following situations.
    - 1. A woman who had been told that she has cancer of the breast behaves as if she does not have the disease (30 marks)
    - 2. A man delay to bring his son to hospital following an accident. The boy dies in hospital and the father accuses the medical staff of negligence. (30 marks)

7. (a) Briefly describe the following:
1. serotonin synthesis (30 marks)
  2. termination of the action of serotonin (30 marks)
  3. 5HT<sub>2A</sub> antagonism reduces extrapyramidal side effects of atypical antipsychotics. (40 marks)
8. Compare the mechanisms of action of the following:
- (a) donepezil and memantine (30 marks)
  - (b) venlafaxine and bupropion (30 marks)
  - (c) disulfiram and acamprosate (40 marks)
9. (a) List the nuclei of the facial nerve. (10 marks)
- (b) Enumerate the structures innervated by each of these nuclei. (20 marks)
- (c) Explain the neurological basis of the following lesions:
1. A patient with a brain tumour has right sided paralysis of the lower part of the face only (35 marks)
  2. Following a stroke, a patient has paralysis of the entire left side of the face. He also complains of double vision and difficulty in seeing objects on his left side. He has no other visual defects. (35 marks)
10. A study was carried out to determine the prevalence of depression among adults in the Colombo district. The sample included 215 females and 550 males attending the outpatients' department of the National Hospital of Sri Lanka, Colombo. A note was put up at the hospital OPD requesting people to volunteer for the study. All those who volunteered were recruited. The diagnosis was made by a medical officer after a clinical interview. The study reported that the prevalence of depression among adults in the Colombo district was 16.0%.
- Comment on the methodology and on the findings of this study. (100 marks)

**POSTGRADUA E INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**SELECTION EXAMINATION IN MD (PSYCHIATRY)**  
**AUGUST 2011**

Date:- 29<sup>th</sup> August 2011

Time : 1.00 p.m.-4.00 p.m.

**Answer all 10 questions.**

**Answer each question in a separate book.**

**ESSAY PAPER**

1. A 65-year-old woman with fever for 3 days is brought unconscious to hospital by her daughter. The patient is on treatment for high blood pressure for 7 years, and depressive disorder for 1 month. The daughter states that the patient developed fever without chills 3 days ago. The fever was progressively worsening and not responding to paracetamol. There were abnormal jerky movements of limbs. Her consciousness had deteriorated gradually. There were no features suggestive of an infection.

On examination she was febrile with an axillary temperature of 40<sup>0</sup>C . Passive movement of the neck was resisted in all directions. The blood pressure was 90/76 mmHg, and pulse rate was 110 beats/minute and regular. The lungs and abdomen were clinically normal. On nervous system examination, the Glasgow Coma Scale was 9/15 (E2 V2 M5). Fundi were normal. There was bilaterally increased muscle tone, hyper-reflexia with clonus and involuntary jerky movements of limbs. There were no lateralizing signs.

- (a) State, with reasons, the most likely cause for the current presentation. (20 marks)
- (b) Describe the immediate management of this patient. (40 marks)
- (c) Outline the subsequent management of this patient. (30 marks)
- (d) List four (04) drugs or other chemical agents (each from a different class) that are known to cause hyperthermia. (10 marks)

2. Write notes on the following.
- (a) Management of acute hepatic encephalopathy in a patient with cirrhosis of the liver. (60 marks)
  - (b) The value of the medical history in selecting an antidepressant. (40 marks)
3. Write notes on the following.
- (a) Non-REM sleep. (30 marks)
  - (b) Narcolepsy. (30 marks)
  - (c) Opiates and reward mechanism. (40 marks)
- 4.
- (a) Name six (06) anti-depressant classes based on their mode of action and name one (01) antidepressant that belongs to each class you mentioned above. (20 marks)
  - (b) Describe the mechanism of therapeutic action of venlafaxine. (80 marks)
- 5.
- (a) Name the different types of GABA receptors. (20 marks)
  - (b) Describe the action of benzodiazepines at GABA receptors. (70 marks)
  - (c) List five (05) therapeutic uses of benzodiazepines. (10 marks)

- 6.
- (a) Draw and label a coronal section of the cerebral hemispheres at the level of the thalamus and the internal capsule. (50 marks)
  - (b) Draw and label a diagram to show the venous drainage of the brain. (50 marks)
7. A study was designed to identify if mobile phone usage causes brain tumours. Twenty thousand adults were followed up for a period of 10 years. The study found that among 15000 adults who used mobile phones 150 developed a brain tumour during this period and among 5000 adults who did not use mobile phones 5 developed a brain tumours.
- (a) Calculate the attributable risk and relative risk of developing a brain tumour among mobile phone users compared to non-users. (40 marks)
  - (b) Describe what is meant by confounding variable. (10 marks)
  - (c) What confounding variables may have influenced the outcome described in this study ? (50 marks)
- 8.
- (a) List four (04) types of learning. (20 marks)
  - (b) Describe two (02) of the types listed above giving examples. (40 marks)
  - (c) Describe two (02) treatment methods that utilize learning theory. (40 marks)

9. Explain the psychological basis of the following
- (a) A five year old boy frequently makes his sister cry despite punishment by the mother. (25 marks)
  - (b) Use of bell and pad method is effective in the treatment of nocturnal enuresis in a seven year old boy. (25 marks)
  - (c) A mother who wanted to terminate the pregnancy but failed to do so is now over indulgent and over protective of the child. (25 marks)
  - (d) A man who is compelled to work for a superior he previously disliked, now states that he likes the person. (25 marks)
10. Compare the following.
- (a) Overvalued ideas and delusions. (25 marks)
  - (b) Hallucinations and pseudohallucinations. (25 marks)
  - (c) Thought broadcasting and delusions of reference. (25 marks)
  - (d) Delusional perception and delusional memory. (25 marks)