

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH 1990

Date: 05th March 1990

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

PAPER I

Answer both questions in Part A.

Answer one question in Part B.

Write the answer to each question in a separate book.

PART A

1. Give an account of the anatomical structures of the lateral pelvic wall, discussing their relationships..
2. Discuss the alterations to maternal cardiovascular physiology that occur during pregnancy.

PART B

3. Discuss the general and local factors affecting wound healing. Describe briefly the complications that may arise.
4. Write short notes on,
 - (a) Turner's syndrome
 - (b) Human immunodeficiency virus (HIV)
 - (c) Rhesus isoimmunisation.
 - (d) Prolactin

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1990

Date: 06th March 1990
noon

Time: 9.00 a.m.-12.00

PAPER II

Answer both questions in Part A.

Answer one question in Part B.

Write the answer to each question in a separate book.

PART A

1. Write an account of oxytocic and tocolytic drugs acting on the human uterus.
2. Discuss the mechanisms involved in the maintenance of the normal blood sugar level.
Describe briefly how abnormalities may occur.

PART B

3. Describe in detail the anatomy of the vulva including its blood supply, lymphatic drainage and development
4. Write short notes on,
 - (a) Control of thyroid function.
 - (b) Candida albicans.
 - (c) Spermatogenesis
 - (d) Fertilization and implantation.

POSTGRADUATE INSTITUTE OF MEDICINE
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MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1991

Date: 05th March 1991

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

PAPER I

Answer both questions in Part A.

Answer one question in Part B.

Write the answer to each question in a separate book.

PART A

(Compulsory)

1. Describe the embryology of the ovaries, and their structure and anatomical relations in the normal adult woman.
2. Describe and discuss the responses, which may occur in an adult woman during sexual stimulation and intercourse, and the pathophysiology of vaginismus.

PART B

(One question to be answered)

3. Discuss the role of carcinogens in the development of human malignancies.
4. Write short notes on,
 - (i) Genetic counseling
 - (ii) Progesterone
 - (iii) Alpha - feto protein
 - (iv) Cephalosporins

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

NS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1991

Date: 06th March 1991

Time: 9.00 a.m. - 12.00 noon

PAPER II

Answer both questions in Part A.

Answer one question in Part B.

Write the answer to each question in a separate book.

PART A

(Compulsory)

1. Describe the uterus, its relations, blood supply and lymphatic drainage. Outline its development and the developmental anomalies.
2. Describe the mechanics and intrapleural pressure changes, which occur in normal and deep breathing. How may these be altered by,
 - (a) Narcotic analgesics?
 - (b) A painful abdominal surgical incision?

PART B

(One question to be answered)

3. Write an essay on prostanoids.
4. Write short notes on,
 - (a) The normal fetal circulation
 - (b) Seminal fluid
 - (c) The adrenal cortex
 - (d) Neisseria gonorrhoeae

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1992

Date: 3rd March, 1992

Time: 9.00 a.m. - 12.00 noon

PAPER I

Answer both questions in part A.

Answer one question in Part B.

Write the answer to each question in a separate book.

PART A

(Compulsory)

1. Describe the coagulation/fibrinolytic system and the changes which, occur during pregnancy
2. Give a brief account of the regulation of hydron (H⁺ion) balance in health. Describe briefly the disturbances of hydron balance, which may occur in (a) Profuse vomiting and (b) uncontrolled diabetes mellitus.

PART B

(One question to be answered)

3. Describe the anatomy of the vagina, its relations, blood supply and lymph drainage. Outline its development and developmental anomalies.
4. Write short notes on,
 - (a) Herpes simplex virus
 - (b) Standard deviation
 - (c) Haemoglobinopathies
 - (d) Cervical intra-epithelial neoplasia.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1992

Date: 3rd March 1992

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

PAPER II

Answer both questions in Part A.

Answer one question in Part B.

Write the answer to each question in a separate book.

PART A

(Compulsory)

1. Discuss the aetiology, pathogenesis and prognosis of cervical neoplasia.
2. Discuss the physiology of the pituitary gland in relation to the menstrual cycle, pregnancy, partus and lactation.

PART B

(One question to be answered)

3. Discuss the host-defence mechanisms against infections in Obstetrics & Gynecology.
4. Write short notes on,
 - (a) the ligamentous support of the, uterus
 - (b) human chronic gonadotrophin (hCG)
 - (c) cardiac output during pregnancy
 - (d) antihypertensive agents suitable for use during pregnancy and delivery.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1993

Date: 1st March 1993

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

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Discuss the factors involved in the control of blood pressure.
What important changes occur during pregnancy?

2. Describe how the hypothalamo-pituitary-ovarian axis operates. How may this be influenced in clinical practice?

3. Give an account of the innervation of the genito-urinary tract.

4. Write short notes on,
 - A. Hepatitis virus
 - B. Doppler monitoring of the fetal heart
 - C. Hydralazine
 - D. Radioimmunoassay

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNABCOLOGY) PART I EXAMINATION
MARCH, 1994

Date: 7th March 1994

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

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Write an account of the biosynthesis, metabolism and physiological actions of oestrogen in the human.

2. Describe the embryological development of the female genital tract with particular attention to how abnormalities occur.

3. Discuss the factors that, determine the behavior of gynecological tumor cells.

4. Write short notes on,
 - A. The null hypothesis
 - B. How chromosomal disorders occur?
 - C. Microorganisms in the vagina
 - D. Tocolytics

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH 1995

Date: 6th March 1995

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

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Discuss the patterns of activity of the uterine muscle in the non pregnant state, during pregnancy and in labor, mentioning the principle factors that influence this activity.
2. Write an essay on the Acquired Immune System.
3. Describe sexual differentiation and explain how intersex states occur.
4. Write short notes on,
 - (a) Retroviruses
 - (b) Polymerase chain reaction
 - (c) Actions of lignocaine
 - (d) Physics of diagnostic ultrasound

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1996

Date: 5th March 1996

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

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Discuss the arterial supply to the genitourinary structures in the pelvis.
2. Describe the hormonal events of the normal ovarian cycle and discuss the pharmacological agents that can be used to include ovulation.
3. Give an account of cell damage leading to necrosis and its sequelae.
4. Write short notes on,
 - (a) Bone changes in postmenopausal women
 - (b) Endometrial atypia
 - (c) Sensitivity, specificity and-positive predictive value
 - (d) Rubella virus

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1997

Date: 3rd March 1997

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

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Describe the pelvic diaphragm and discuss its clinical importance.
2. Discuss the mechanism of blood clot formation and the changes in the coagulation system, which occur during pregnancy.
3. Discuss the mechanism of actions of progestogens and its therapeutic applications in Obstetrics & Gynecology.
4. Write short notes on,
 - (a) Magnesium sulfate
 - (b) Hepatitis virus
 - (c) Measures of central tendency and scatter
 - (d) Tumor markers

POSTGRADUATE INSTITUTE OF MEDICINE
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MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1998

Date: 2nd March 1998

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

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Describe the normal hormonal control of calcium metabolism, and comment on how pregnancy and menopause may affect it.

2. Describe the anatomy of the pelvic part of the female urinary tract including the blood and nerve supply.
Discuss the relevance of this knowledge in obstetrics.

3. Discuss the anti-cancer drugs used in the treatment of gynecological cancers, and summaries the principles which influence the effectiveness of chemotherapy.

4. Write short notes on,
 - (a) Linear regression and correlation.
 - (b) Immunology of pregnancy failure.
 - (c) Current molecular biology techniques applied in obstetrics and gynecology,
 - (d) Effects of estrogens and anti-estrogens on Endometrial pathology.

POSTGRADUATE INSTITUTE OF MEDICINE
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MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1999

Date: 2nd March 1999

Time: 9.30a.m. - 12.30 p.m.

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Describe the anatomy of the lateral pelvic wall as visible at laparotomy including the muscular floor.

2. Discuss the role of vasoactive substances, in the cardiovascular adaptation to pregnancy with specific reference to Angiotensin II, Eicosinoids, and Nitric Oxide.

3. Discuss the mechanisms leading to tumor formation with specific reference to obstetrics & gynecology.

4. Write short notes on,
 - (a) Discuss randomization and blinding in a clinical trial
 - (b) Gonadotrophin releasing hormone agonists
 - (c) Role of thyroid hormone in fetal development
 - (d) Principles and application of the Doppler effect in obstetrics

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 2000

Date: 6th March 2000

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

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Describe the anatomy of the posterior perineal triangle.
2. Discuss the biological aspects of inhibin in reproductive function in humans.
3. Discuss spermatogenesis in humans and the environmental effects, infections and clinical intervention that can affect this process.
4. Write short notes on,
 - (a) Metanalysis, relative risk (RR) and confidence intervals (CI)
 - (b) Selective oestrogen receptor modulators (SERM)
 - (c) The common urinary pathogens in the female and the antibiotics used to combat them in pregnancy
 - (d) Discuss the histological junctions of the cervix

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MS (OBSTETRICS & GYNECOLOGY) PART I EXAMINATION
OCTOBER, 2000

Date: 2nd October 2000

Time: 1.30 - 4.30 p.m.

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Describe mechanisms of glucose homeostasis. Discuss how this is charged
 - a. in pregnancy
 - b. in obesity

2. Describe the process of healing of a laparotomy wound in relation to each of the tissue layers. Discuss the factors, which can impair this process.

3. Describe the anatomical structures that support the vagina. Discuss their participation in utero vaginal prolapse.

4. Write short notes on ,
 - (a) Fetal hemoglobin
 - (b) Microbiology of chlamydia trachomatis
 - (c) Cyclo oxygenase
 - (d) Vertical transmission of Human Immunodeficiency Virus

POSTGRADUATE INSTITUTE OF MEDICINE.
UNIVERSITY OF COLOMBO.

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMTINATION
MARCH, 2001

Date : 5th March, 2001

Time: 1.30 - 4.39 p.m.

ESSAY PAPER

Answer three questions only.

Write the answer to each question in a separate book.

1. Discuss the mechanisms that control blood pressure. Describe the physiological changes in blood pressure that occur in normal pregnancy.
2. Describe the lymphatic drainage of the cervix and vulva.
3. An asymptomatic woman has been found to have a 5 cm ovarian, lesion. Discuss the differential diagnosis with regard to the pathology.
- 4..... Write short notes on :
 - (i) The vaginal flora
 - (ii) Gonadotrophin releasing hormone
 - (iii) Hepatitis virus
 - (iv) Randomised clinical trials

POSTGRADUATE INSTITUTE OF MEDICINE.
UNIVERSITY OF COLOMBO.

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMTINATION
JANUARY, 2002

Date: 12th January 2002

Time : 9.30 a.m.-12.00 p.m.

ESSAY PAPER

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Answer three questions only.

Write the answer to each question in a separate book.

1. Describe the embryological development, structure and function of the female lower genital tract.(below the cervix)
2. Discuss disseminated intra-vascular coagulation (D.I.C) with special reference to different -"obstetrical and gynaecological conditions.
3. Give an account of naturally occurring oestrogens in women and their mechanisms of action at the level of the target cell. Describe physiological and pharmacological effects of oestrogens.
4. Write short notes on **three** of the following :
 - a) Methotrexate therapy in the practice of obstetrics & gynaecology
 - b) Stem cells
 - c) Chicken pox virus in relation to pregnancy
 - d) Relaxin

POSTGRADUATE INSTITUTE OF MEDICINE.
UNIVERSITY OF COLOMBO.

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 2003

Date: 03rd March 2003

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

Answer all questions.

Write the answer to each question in a separate book.

ESSAY QUESTION (1 HOUR)

Question 01

1. Describe the endocrine changes in the normal menstrual cycle and their effects on the reproductive organs (50 marks)

STRUCTURED ESSAY QUESTIONS (30 MINUTES EACH)

Question 02

2.
 - 2.1 Describe the arterial blood supply of the uterus. (8 marks)
 - 2.2 Enumerate the changes in the uterine vasculature during pregnancy. (3 marks)
 - 2.3 Describe the lymphatic drainage of the uterus and cervix. (8 marks)
 - 2.4 Give three reasons why a knowledge of lymphatic drainage is important in malignancies of the uterus and cervix. (6 marks)

Question 03

3.
 - 3.1 What are the types of acute renal failure? (3 marks)
 - 3.2 Give one example for each type. (3 marks)
 - 3.3. What are the two broad categories of acute tubular necrosis. Give two examples for each category. (4 marks)
 - 3.4 Give four complications of acute tubular necrosis. (4 marks)
 - 3.5 List the types of acute tubular necrosis. (3 marks)
 - 3.6 What are the types of jaundice? (3 marks)
 - 3.7 Outline the biochemical changes of each type of jaundice (5 marks)

Question 04.

4.

- 4.1. What is bacterial vaginosis ? (5 marks)
- 4.2 Name two drugs used in the treatment of bacterial vaginosis. (2 marks)
- 4.3 Name three organisms causing life threatening opportunistic infections in HIV infected patients. (3 marks)
- 4.4 What is the scientific basis of the Tuberculin test? (3 marks)
- 4.5 Give three situations what the Tuberculin test is falsely negative. (3 marks)
- 4.6 List three characteristic features of Chlamydia trachomatis. (3 marks)
- 4.7 List three investigations done in the detection of acute Chlamydial infection in a gynaecological patient (3 marks)
- 4.8 Name three drugs effective in the treatment of Clamydial infection. (3 marks)

Question 05.

5.

- 5.1 What is leptin ? (2 marks)
- 5.2 What is it's main site of production? (2 marks)
- 5.3 Describe the relationship between leptin and starvation. (5 marks)
- 5.4 Describe the mechanism of estrogen action at cellular level. (5 marks)
- 5.5 What arc the thrombophilic effects of estrogen? (3 marks)
- 5.6 Describe the regulation of prolactin secretion. (3 marks)
- 5.7 Describe the mechanism and principles of Single Photon Emission Computed Tomography. (5 marks)

POSTGRADUATE INSTITUTE OF MEDICINE.
UNIVERSITY OF COLOMBO.

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 2004

Date: 01st March 2004

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

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Answer all questions.

Write the answer to each question in a separate book.

ESSAY QUESTION PAPER (1 HOUR)

Question 01

1. Discuss the factors which contribute to carcinogenesis in women. (50 marks)

STRUCTURED ESSAY QUESTIONS (30 MINUTES EACH)

Question 2.

- 2.
- 2.1 List the branches of the abdominal aorta. (04 marks)
 - 2.2 Describe the arrangement of muscles in the posterior abdominal wall. (07 marks)
 - 2.3 Give an account of the branches of the lumbar plexus. (10 marks)
 - 2.4 Describe the position of the kidneys and the abdominal course of the ureters. (04 marks)

Question 3

- 3.
- 3.1. List the functions of the placenta. (03 marks)
 - 3.2. Describe the factors affecting the transfer of substances across the placenta. (05 marks)
 - 3.3. What is the fetoplacental unit? (02 marks)
 - 3.4. Explain the process of biosynthesis of oestrogens by the placenta. (05 marks)
 - 3.5. What are the actions of human chorionic somatomammotropin (human placental lactogen) (04 marks)
 - 3.6. Outline the utero-placental vascular changes in patients with pregnancy induced hypertension. (06 marks)

Question 4.

- 4.
- 4.1. Describe the structure of the Human Immuno-deficiency Virus (HIV) with the aid of a labeled diagram. (05 marks)
 - 4.2. List **three** (3) investigations used in the diagnosis of HIV infection and indicate when these tests become positive. (06 marks)
 - 4.3. List six (6) common fungal infections seen in a HIV infected person. (03 marks)
 - 4.4. What is the mechanism of action of the following anti-retroviral drugs:
 - a) Zidovudine [AZT]
 - b) Ritonavir
 - c) Nevirapine(03 marks)
 - 4.5. List **three** (3) tests done in the diagnosis of tuberculosis and how you would interpret the results in a HIV infected patient. (03 marks)
 - 4.6. Name **four** (4) mycobacteria pathogenic to the human. (02 marks)
 - 4.7. Name **three** (3) drugs used in the treatment of resistant tuberculous infection. (03 marks)

Question 5

- 5.
- 5.1. List six (6) hypothalamic hormones which regulate the secretion of pituitary hormones, together with the location of the cell bodies of the neurones which secrete them. (06 marks)
 - 5.2. Outline the effects of (a) Oestrogen (b) Progesterone on lipids and on the fluid balance (04 marks)
 - 5.3. List the possible hormonal preparations which inhibit spermatogenesis and has a potential as male contraceptives. (04 marks)
 - 5.4. Where is Testosterone synthesised in the female and what is its function? (04 marks)
 - 5.5. What effects would the circadian rhythm of adreno-corticotropic hormone (ACTH) release have on the cortisol secretion? (01 mark)
 - 5.6. Mention three (3) conditions in which the above mentioned circadian pattern is lost. (03 marks)
 - 5.7. Mention three (3) side-effects of long-term use of GnRh analogues (03 marks)

POSTGRADUATE INSTITUTE OF MEDICINE.
UNIVERSITY OF COLOMBO.

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION

MARCH, 2005

Date: 14th March, 2005

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

Answer all questions.

Write the answer to each question in a separate book.

ESSAY QUESTION (1 HOUR)

Question 01

1. Describe the functions of the vascular endothelium and the changes that occur in normal pregnancy. (50 marks)

STRUCTURED ESSAY QUESTIONS (30 MINUTES EACH)

Question 02.

2.
 - 2.1 What are the anatomical relations of the rectum in the female? (06 marks)
 - 2.2 Describe the blood supply of the rectum and anal canal in the female (14 marks)
 - 2.3 Outline the lymph drainage of the female external genitalia (05 marks)

Question 03

3.
 - 3.1 Outline the mechanisms of formation of fluid exudate in acute inflammation (03 marks)
 - 3.2 List the functions of fluid exudates (03 marks)
 - 3.3 Name six (06) mediators of acute inflammation and give their origins (03 marks)
 - 3.4 List four (4) functions of neutrophil polymorphs in acute Inflammation (02 marks)
 - 3.5 Describe the natural killer cell and its functions (04 marks)
 - 3.6 Outline the principles of immunization in the prevention of infectious diseases. (06 marks)
 - 3.7 Enumerate the advantages of live attenuated vaccines over inactivated vaccines (02 marks)
 - 3.8 List four (4) contraindications for use of live attenuated vaccines (02 marks)

Question 4.

- 4.
- 4.1 Discuss the microbiological characteristics of Chlamydia trachomatis (04 marks)
 - 4.2 How does infection of the upper genital tract with Chlamydia trachomatis occur in the female? (02 marks)
 - 4.3 What are the common consequences of Chlamydia trachomatis infection in the female? (04 marks)
 - 4.4 What diagnostic tests are used to detect Chlamydia trachomatis? (04 marks)
 - 4.5 List the antibiotics used in the treatment of an acute episode of Chlamydia trachomatis infection (04 marks)
 - 4.6 What is Cytochrome P 450? (03 marks)
 - 4.7 Outline the functions of Cytochrome P 450 (04 marks)

Question 5.

- 5.
- 5.1 Enumerate six (6) indications for chromosomal analysis (03 marks)
 - 5.2 Describe briefly the stages of preparation of genomic DNA for analysis from a sample of blood (06 marks)
 - 5.3 Briefly describe the mitochondrial chromosome (04 marks)
 - 5.4 Enumerate two (2) clinical conditions caused by the alteration of mitochondria chromosomes (01 marks)
 - 5.5 Briefly describe cell adhesion molecules and outline their significance (06 marks)
 - 5.6 What is the concept of gene therapy (01 mark)
 - 5.7 List the major uses and limitations of gene therapy (04 marks)

POSTGRADUATE INSTITUTE OF MEDICINE.
UNIVERSITY OF COLOMBO.

MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 2006

Date: 13th March, 2006

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

Answer all five questions.

Write the answer to each question in a separate book.

ESSAY QUESTION (1 HOUR)

Question 01

1. Describe the pathogenesis of septic shock including its systemic effects. (50 marks)

STRUCTURED ESSAY QUESTIONS (30 minutes each)

Question 02

- 2.1 Give an account of the obturator foramen. (10 marks)
- 2.2 Describe the obturator nerve. (10 marks)
- 2.3 Describe briefly the anatomy of the obturator externus muscle. (05 marks)

Question 03

- 3.1 Give the physiological basis of enhanced ventilation and perfusion of lung bases in the upright position. (09 marks)
- 3.2 Describe the factors that affect the diffusion of oxygen and carbon dioxide across the alveolar capillary membrane. (05 marks)

- 3.3 "Marked stimulation of respiration occurs only when the partial pressure of oxygen in inspired air is below 60mmHg" , Explain the reason for the above statement. (05 marks)
- 3.4 List the physiological changes that occur in the respiratory system during pregnancy. (06 marks)

Question 04

- 4.1. Briefly discuss the factors which affect drug absorption following oral administration. (10 marks)
- 4.2. What is bioavailability ? (02 marks)
- 4.3. List the different cellular and extracellular mechanisms of drug action in the human (09 marks)
- 4.4. Name the direct mechanisms of teratogenesis following drug administration. (04 marks)

Question 05

A couple (II-2 and II-3) who had two spontaneous miscarriages in the first trimester is seeking your advice regarding future pregnancies. Their pedigree is given above.

- 5.1. Give the most probable genetic cause for the recurrent abortions in this couple. (01 marks)
- 5.2. Name the genetic test that would be most appropriate to confirm your answer to question 5.1 (02 marks)
- 5.3. List the laboratory steps involved in performing the test that you mentioned in question 5.2 (05 marks)
- 5.4. Briefly describe the underlying principles of the Fluorescence in situ hybridization [FISH] technique. (10 marks)
- 5.5. List the main advantages of FISH when compared to conventional cytogenetic techniques. (03 marks)
- 5.6. List two single gene defects that can increase a woman's risk for recurrent abortions. (04 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (OBSTETRICS & GYNAECOLOGY) PART 1 EXAMINATION
MARCH, 2007

Date: 12th March 2007

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

Answer all five questions.

Write the answer to each question in a separate book.

ESSAY QUESTION (1 HOUR)

Question 1

1. Describe endocrine regulation of calcium homeostasis and explain the functions of ionized calcium in the body. (50 marks)

STRUCTURED ESSAY QUESTIONS (30 minutes each)

Question 2

- 2.1 Describe the relations of the urinary bladder in an adult female. (10 marks)
- 2.2 Discuss its innervation. (12 marks)
- 2.3 Give a brief outline of the lymph drainage of the bladder. (03 marks)

Question 3

- 3.1 Explain briefly the healing of a surgical skin incision with edges in apposition. (12 marks)
- 3.2 Briefly describe how a healing wound acquires its tensile strength. (03 marks)
- 3.3 Outline the role of four growth factors and two cytokines in wound healing. (10 marks)

Question 4

- 4.1 List four mechanisms of action of antimicrobial drugs. (04 marks)
- 4.2 Outline four biochemical mechanisms by which micro organisms acquire resistance to antimicrobial drugs. (08 marks)
- 4.3 Enumerate five pharmacological principles to be considered in selecting the most appropriate antibiotic regimen. (05 marks)
- 4.4 Briefly explain the different mechanisms of drug interaction. (08 marks)

Question 5

- 5.1 Explain the phases and endocrine regulation of folliculogenesis excluding ovulation. (15 marks)
- 5.2 Briefly outline the pathway of oestrogen synthesis in the human ovary. (05 marks)
- 5.3 Enumerate ten actions of estrogen on the non gravid uterus. (05 marks)

POST GRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (OBSTETRICS & GYNAECOLOGY) PART 1 EXAMINATION
MARCH 2008

Date: 10th March 2008

Time: 1.00 pm - 4.00 pm

Answer all five questions

Write the answer to each question in a separate book

Essay question (1 Hour)

Question 1

1. Discuss tumour markers with reference to different types, laboratory detection, uses and their limitations. Detailed discussion on individual tumour markers is not required. (50 marks)

Structured Essay Questions (30 minutes each)

Question 2

- 2.1 Describe the macro and microscopic structure of the vagina (12 marks)
- 2.2 Give an account of its vascular supply (8marks)
- 2.3 Outline its lymph drainage (3 marks)
- 2.4 What is its nerve supply ? (2 marks)

Question 3

- 3.1 Define homeostasis (2 marks)
- 3.2 Name the components of a negative feed back mechanism (3 marks)
- 3.3 Describe the endocrine response to stress (12 marks)
- 3.4 Outline the metabolic response to surgical trauma (8 marks)

Question 4

- 4.1 Describe the pathogenesis of Human Immunodeficiency Virus (HIV) infection (10 marks)
- 4.2 Outline the factors determining the risk of transmission of HIV infection to the new born (6 marks)
- 4.3 How would you use the laboratory to diagnose HIV infection in the newborn ? (4 marks)
- 4.4 List the factors found in the amniotic fluid which protect against intrauterine infections (5 marks)

Question 5

- 5.1 Define different types of hormones giving an example of each (6 marks)
- 5.2 Outline the factors that determine the response of a target cell to a hormone (6 marks)
- 5.3 What are second messengers ? (1 marks)
- 5.4 Explain the mechanism of action of second messengers (4 marks)
- 5.5 Outline the mechanism of sickling (3 marks)
- 5.6 What is the genetic basis of sickle cell disease ? (5 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (OBSTETRICS & GYNAECOLOGY) PART 1 – EXAMINATION
MARCH 2009

Date : 9th March 2009

Time : 1.00p.m. – 4.00 p.m.

Answer all five questions.

Write the answer to each question in a separate book.

Essay Question (1 hour)

Question 1

1. Describe the mechanisms that maintain the blood pressure within normal range. (50 marks)

Short Essay Questions (30 minute each)

Question 2

- 2.1. Discuss the joints of the pelvis (excluding the hip joint) (18 marks)
- 2.2. Describe the arrangement of the peritoneum in the female pelvis. (07 marks)

Question 3

- 3.1. Briefly describe the macroscopic and microscopic features of a mature uncomplicated atheromatous plaque. (05 marks)
- 3.2. Describe the role of endothelium in pathogenesis of an atheromatous plaque. (10 marks)
- 3.3. Outline the sequence of cellular, structural and biochemical changes in hypoxic cell injury. (10 marks)

Question 4

- 4.1. Outline the structure of the (human) insulin molecule. (03 marks)
- 4.2. Explain how the modification of insulin affects its pharmacological activity. (10 marks)
- 4.3. Describe the different mechanisms by which glucose is transported in to the cells giving an example of each. (06 marks)
- 4.4. Describe the metabolic changes that occur in relation to glucose homeostasis during starvation in a non pregnant woman. (06 marks)

Question 5

- 5.1. Outline the stages of spermatogenesis. (05 marks)
- 5.2. Describe the hormonal regulation of spermatogenesis. (07 marks)
- 5.3. Describe the events that occur in the spermatozoa after being released from the seminiferous tubules upto fertilization. (06 marks)
- 5.4. List the genetic causes of abnormal spermatogenesis. (02 marks)
- 5.5. Describe the genetic basis of primary ovarian failure. (05 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (OBSTETRICS AND GYNAECOLOGY) PART I EXAMINATION
MARCH 2010

Date : 8th March 2010

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

Answer all five questions

Write the answer to each question in a separate book.

Essay Question (1 hour)

Question 1

1. Describe the types of carcinogens, and explain how carcinogenesis is induced ? (50 marks)

Short Essay Question (30 minute each)

Question 2

- 2.1. Describe the arterial supply of the uterus, vagina and fallopian tubes. (20 marks)
- 2.2. List the stages of development of the uterus and fallopian tubes. (05marks)

Question 3

- 3.1. Discuss the physiological basis of low urine output following moderate haemorrhage. (12 marks)
- 3.2. State the urinary parameters that would help to differentiate prerenal from renal (intrinsic) type of acute renal failure. (05 marks)
- 3.3. Explain the physiological changes that occur in the urinary system during pregnancy. (08 marks)

Question 4

- 4.1 Briefly explain how the iron stores are maintained in the human body. (02 marks)
- 4.2 Describe the factors that influence iron absorption from the gastrointestinal tract. (05 marks)
- 4.3 Outline the mechanism by which iron enters into the mucosal cell lining of the upper gastrointestinal tract and reaches the circulation. (10 marks)
- 4.4 Briefly describe the regulatory mechanisms for iron absorption at the enterocyte. (08 marks)

Question 5

- 5.1 Outline the pathway of thyroid hormones (T_3 , T_4) synthesis. (03 marks)
- 5.2 Describe the changes that occur in T_3 , T_4 and TSH hormones during normal pregnancy in relation to regulation of secretion, transport and metabolism. (12 marks)
- 5.3. Give an account of the thyroid physiology in the fetus. (10 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (OBSTETRICS & GYNAECOLOGY) PART I - EXAMINATION
MARCH 2011

Date : 14th March 2011

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions

Write the answer to each question in a separate book.

Essay Question (1 hour)

Question 1

1. Describe the physiology of normal labour. (50 marks)

Short Essay Questions (30 minutes each)

Question 2

- 2.1. Give an account of the inferior mesenteric vessels. (9 marks)
- 2.2. Describe the anal canal. (14 marks)
- 2.3. State in brief the development of the anal canal. (2 marks)

Question 3

- 3.1. Describe the pathogenesis of thrombosis. (14 marks)
- 3.2. Enumerate the fate of thrombus. (2 marks)
- 3.3. Explain how pregnancy becomes a thrombogenic state ? (9 marks)

Question 4

- 4.1 Briefly describe the mechanism of action of antibacterial drugs giving examples. (10 marks)
- 4.2 Outline the medical significance of xenobiotic metabolism in the body. (10 marks)
- 4.3 Briefly describe the xenobiotic metabolizing system in the human fetoplacental unit. (5 marks)

Question 5

- 5.1 Outline the pathophysiology of diabetic ketoacidosis in pregnancy and its effects on the fetus. (13 marks)
- 5.2 Give an account on the principles of teratogenesis. (12 Marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (OBSTETRICS & GYNAECOLOGY) PART I - EXAMINATION
MARCH 2012

Date : 19th March 2012

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions

Write the answer to each question in a separate book.

Essay Question (1 hour)

Question 1

1. Describe the pathologic basis of chronic inflammation and its manifestations.
(Description on individual chronic inflammatory disorders not required)
(50 Marks)

Short Essay Questions (30 minutes each)

Question 2

- 2.1. Describe the anatomy of the lateral pelvic wall to include muscles blood vessels, nerves and other important structures. *(17 Marks)*
- 2.2. Outline the lymphatic drainage of the female genital tract.. *(08 Marks)*

Question 3

- 3.1. Define the renal clearance of a substance. *(02 Marks)*
- 3.2. Outline the mechanism of glucose reabsorption in the proximal tubule.. *(05 Marks)*
- 3.3. Explain the physiological basis of the following; ?
 - 3.3.1. Glycosuria can occur in spite of a normal blood glucose concentration in pregnancy. *(06 Marks)*
 - 3.3.2. Presence of un reabsorbed glucose in the proximal tubular fluid leads to diuresis. *(06 marks)*
 - 3.3.3. In a pregnant patient with impaired renal function the blood urea nitrogen can be normal. *(06 Marks)*

Question 4

- 4.1 Describe the molecular structure of GnRH and its agonists and antagonists in relation to its action. *(15 Marks)*
- 4.2 Give a brief account on Drospirenone. *(10 Marks)*

Question 5

- 5.1 Describe the process that lead from the development of primordial follicle to an ovulated oocyte. *(22 Marks)*
- 5.2 Briefly explain how obesity leads to anovulation ?. *(03 Marks)*

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MD (OBSTETRICS & GYNAECOLOGY)
MARCH 2013

Date : 11th March 2013

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions
Write the answer to each question in a separate book.

Essay Question (1 hour)

Question 1

1. Describe hydrogen ion (H^+) homeostasis in the extracellular fluid (ECF) of a **healthy adult at rest.** (100 marks)

Short Essay Questions (30 minutes each)

Question 2

- 2.1. Compare the development of the external genitalia in the female with that of the male.. (80 marks)
- 2.2. Describe the lymph drainage of the external genitalia in the female. (20 marks)

Question 3

- 3.1. Define an infarct. (10 marks)
- 3.2. List five causes of infarction. (20 marks)
- 3.3. Describe the factors that determine the development of an infarct. (40 marks)
- 3.4. Outline with examples, the different mechanisms through which healing occurs in tissue following infarction. (30 marks)

Question 4

- 4.1 Name five (5) different groups of chemotherapeutic agents used in the treatment of malignancy and outline the mode of action in each group.. (40 marks)
- 4.2 Outline the principles of selecting combination chemotherapeutic agents to optimize the outcome. (30 marks)
- 4.3. Name four (4) groups of non cytotoxic drugs used in the treatment of hormone dependent cancers and briefly describe the mechanism of action in each group. (30 marks)

Question 5

- 5.1 Outline the role of the following in calcium metabolism.
- (a) Parathyroid hormone (20 marks)
- (b) 1:25 Dihydroxycholecalciferol (20 marks)
- (c) Calcitonin (10 marks)
- 5.2 List the actions of oestrogen in prevention of osteoporosis. (25 marks)
- 5.3. Briefly describe the role of prolactin on lactation. (25 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
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SELECTION EXAMINATION FOR MD (OBSTETRICS & GYNAECOLOGY)
MARCH 2014

Date : 17th March 2014

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions

Write the answer to each question in a separate book.

Essay Question (1 hour)

Question 1

1. Discuss the molecular and cellular mechanisms of different types of immune hypersensitivity reactions. (50 marks)

Short Essay Questions (30 minutes each)

Question 2

- 2.1. Describe the gross and microscopic anatomy of the left testis. Include details regarding its blood supply and lymphatic drainage. (20 marks)
- 2.2. Briefly describe the embryological development of the testis. (05 marks)

Question 3

- 3.1.
 - (a) List the physiological mechanisms activated by low and high ambient temperatures to maintain body temperature. (06marks)
 - (b) Explain the role of brown fat in thermoregulation. (05 marks)
- 3.2.
 - (a) List five main mechanisms activating the vomiting reflex giving one example for each mechanism. (05 marks)
 - (b) Describe the pathophysiological basis of maternal complications caused by hyperemesis gravidarum. (09 marks)

Question 4

4.1

- (a) List the pathways in the fetal circulation that allows bypassing of the pulmonary circulation to perfuse the umbilical-placental circulation. (03 marks)
- (b) Outline the steroidogenesis in the feto-placental unit. (07 marks)
- (c) Describe the endocrinological mechanisms underlying menarche. (05 marks)

4.2.

- (a) List three causes of physiological jaundice in a neonate.(03 marks)
- (b) Briefly explain how surfactant deficiency leads to pulmonary oedema. (03 marks)
- (c) Briefly describe why a neonate is more prone to dehydration. (04 marks)

Question 5

- 5.1 Outline the mechanisms by which a tumour escapes immune defences. (10 marks)
- 5.2 Briefly discuss how monoclonal antibodies are useful in management of malignant tumours. (10 marks)
- 5.3. List the features of a tumour which influence radio sensitivity in radiotherapy ?. (05 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MD (OBSTETRICS & GYNAECOLOGY)
FEBRUARY 2015

Date : 23rd February 2015

Time : 1.00 p.m. – 4.00 p.m.

Answer all five (05) questions
Write the answer to each question in a separate book.

Essay Question (1 hour)

Question 1

Adequate tissue oxygenation requires achieving appropriate partial pressures of oxygen and efficient delivery of oxygen at many levels, from the atmosphere onwards. Explain the physiology of this process in an adult in health and disease giving examples. (100 marks)

Short Essay Questions (30 minutes each)

Question 2

2.1. Describe the gross anatomy of the female breast under the following headings. Indicate the clinical relevance at each level.

(a) Fat and fascia (10 marks)

(b) Glandular architecture and the duct system (20 marks)

(c) Blood supply (30 marks)

(d) Lymphatic drainage (30 marks)

2.2. Which nerves are likely to be damaged during lymph node clearance in malignancies of the breast? Give reasons to preserve those nerves. (10 marks)

Question 3

- 3.1. Discuss the predisposing conditions for pulmonary thromboembolism. (50 marks)
- 3.2. Briefly describe the possible morphological changes of the lung following pulmonary thromboembolism. (20 marks)
- 3.3. Explain the clinico-pathological consequences of pulmonary thromboembolism. (30 marks)

Question 4

Regarding prenatal diagnosis.

- 4.1. Nuchal translucency may be raised in a number of fetal conditions.

List seven (07) possible pathophysiological mechanisms that may lead to this appearance. (35 marks)
- 4.2. Briefly describe the underlying principles of chromosomal microarray analysis. (15 marks)
- 4.3. Enumerate two (02) types of chromosomal microarrays used in clinical prenatal testing ? (10 marks)
- 4.4. Compare giving reasons, the advantages of chromosomal microarray over conventional karyotyping. (40 marks)

Question 5

- 5.1. Define puerperal sepsis. (10 marks)
- 5.2. List five (05) common pathogens, which can give rise to genital tract sepsis in postpartum women. (10 marks)
- 5.3. Outline the systemic responses to infection in cardiovascular, respiratory, renal and coagulatory systems. (60 marks)
- 5.4. Briefly describe the differences between following terms:
 - (a) septicaemia
 - (b) sepsis
 - (c) septic shock(20 marks)