(01) MD (Obstetrics & Gynaecology) Part 1
Examination
(earlier MS (Obstetrics & Gynaecology) Part 1
Examination

01. March 1990 02. March 1991
03. March 1992 04. March 1993
05. March 1994 06. March 1995
19. March 2007
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
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MS (OBSTETRICS & GYNAECOLOGY) PART I EXAMINATION
MARCH, 1990

Date: 06th March 1990         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

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  
UNIVERSITY OF COLORADO  

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.
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?  


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 & GYNACOLOGY) 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
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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 induce 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
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.
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 EXAMINATION
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
ESSAY PAPER

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 1 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 Chlamydial infection. (3 marks)

Question 5.

5.

5.1. What is leptin? (2 marks)

5.2. What is its 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 are 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.

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.**

4.1. 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**

5.1 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)
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)
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
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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 microorganisms 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)