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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

**SELECTION EXAMINATION IN MD (OBSTETRICS &
GYNAECOLOGY) FEBRUARY/APRIL 2025**

Date:- 23rd April 2025

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

Answer all six (06) questions.

Answer each question in a separate book.

SHORT ANSWER QUESTIONS

1.

1.1. Describe the anatomy of the left ovary with reference to its location, size, relations, attachments, arterial supply and venous drainage, innervation and the lymphatic drainage. (50 marks)

1.2. Describe the histology of the ovary. (30 marks)

1.3. A 30-year-old woman with pelvic inflammatory disease presented with pain in the medial side of the thigh.
Explain the anatomical basis of her complaint. (20 marks)

2.

2.1. Describe the cardiovascular changes during normal pregnancy. (60 marks)

2.2. Explain why physiological changes in the cardiovascular system increases the risk of **intrapartum** and **postpartum** complications in women with cardiac diseases. (40 marks)

Contd..../2-

STRUCTURED ESSAY QUESTIONS

3. A 22-year-old woman underwent a routine full blood count (FBC) at 28 weeks of gestation in her first pregnancy.

Following are some parameters of her FBC:

Hb	11 g/dL
WBC	$14 \times 10^9/L$
Neutrophils	$11.5 \times 10^9/L$
Platelet count	$85 \times 10^9/L$

- 3.1. Interpret the FBC parameters provided, giving three (03) likely causes for the abnormal parameter. (15 marks)
- 3.2. Explain what investigations you would request to arrive at the diagnosis in this patient. (20 marks)
- 3.3. Briefly describe the pathophysiological basis for each of the three conditions you mentioned in 3.1. (25 marks)

At 37 weeks of gestation, she complained of right hypochondrial pain. Haemoglobin was 8.6 g/dL and platelet count was $48 \times 10^9/L$. Blood film showed a reticulocytosis with red cell fragments. AST - 148 U/L and ALT - 125 U/L.

- 3.4. Briefly explain the pathophysiological basis for her current clinical and laboratory findings and give the most likely diagnosis. (40 marks)
- 4.
- 4.1. Why is the HIV virus known as a retrovirus? (05 marks)
 - 4.2. Briefly describe the immunological basis of how infection with HIV virus leads to AIDS. (15 marks)
 - 4.3. Briefly describe the laboratory diagnosis of HIV infection in pregnant women. (20 marks)
 - 4.4. What is meant by the window period for diagnosis of HIV infection? (10 marks)
 - 4.5. Describe the different ways HIV can be transmitted from mother to child and indicate the factors that influence the risk of mother to child transmission of HIV. (50 marks)

Contd..../3-

5. A 34-year-old woman, gravida 3 para 2, presents for her first antenatal visit at 12 weeks' gestation. She reports a history of hypertension diagnosed approximately one year ago. Although she cannot recall the names of her medications, she states that her blood pressure has been well-controlled with treatment. Her previous pregnancies were uneventful, with full-term vaginal deliveries.

On physical examination, her blood pressure is recorded at 120/80 mmHg, and no abnormal findings are noted

- 5.1. List four (04) classes of anti-hypertensive medications commonly used in clinical practice. (10 marks)
- 5.2. Describe the anti-hypertensive mechanism of action of two of the classes you have mentioned in 5.1. (40 marks)
- 5.3. Name two (02) anti-hypertensive medications that should be discontinued during pregnancy and state the reasons for discontinuation. (20 marks)
- 5.4. Name two (02) anti-hypertensive medications that are considered safe for use during pregnancy. (10 marks)
- 5.5. Briefly discuss five (05) key counselling points that should be addressed when prescribing anti-hypertensive medications to a pregnant patient. (20 marks)

6.

- 6.1. A case control study was performed to determine the use of low-dose aspirin for preeclampsia.

6.1.1. Outline two (02) limitations in using a case control study for the above study. (20 marks)

6.1.2. The results show that Odds ratio (OR) was 0.55 with a 95% Confidence interval (CI) of 0.30 to 2.69. Interpret this result. (30 marks)

6.2. In a **randomised trial**, the use of antibiotics was compared with no antibiotics in preterm labour and the outcome studied was fetal morbidity. 140 events occurred among 280 in the control group (control event rate (CER) 0.5) and 110 events among 330 in the antibiotic group (experimental event rate (EER) 0.3). The **number needed to treat (NNT)** was calculated from these figures and rounded up to a full number.

6.2.1. Define the words in bold. (10 marks)

6.2.2. Calculate the NNT (20 marks)

6.2.3. Interpret the findings calculated in 6.2.2 (20 marks)