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12. April

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

**SELECTION EXAMINATION IN MD (OBSTETRICS &
GYNAECOLOGY) FEBRUARY/APRIL, 2024**

Date:- 24th April 2024

Time:- 1.00 p.m. – 4.00 p.m.

Answer all six (06) questions.

Answer each question in a separate answer book.

SHORT ANSWER QUESTIONS

1.

- 1.1. Describe the anatomical relations of the ureter during its course from the renal pelvis to the urinary bladder. (70 marks)
- 1.2. Identify sites where the ureter is most likely to be damaged during a hysterectomy procedure and the surgeon needs to proceed with care. (15 marks)
- 1.3. Some ureteric injuries during hysterectomy are caused by devascularisation rather than ligation or transection.
Describe the arterial supply to the ureter along its entire course. (15 marks)

2. A 28-year-old woman with a period of amenorrhoea of 24 weeks presents to the Emergency Treatment Unit (ETU) with shortness of breath and cough. She has had flu-like symptoms for 4 days before coming to the ETU. She is found to have a respiratory rate of 30 breaths/minute, and a percentage oxygen saturation (SaO₂) of 78% on air. A blood gas analysis on admission shows hypocapnoea. A diagnosis of viral pneumonia is made. She is started on high-flow oxygen via nasal cannulation.

2.1. State the reasons for the following:

2.1.1. SaO₂ of 78% (15 marks)

2.1.2. Hypocapnoea (15 marks)

2.2. Explain the pathophysiological basis for her respiratory rate. (50 marks)

2.3. Explain the basis for treatment with inhaled oxygen. (20 marks)

Contd..../2-

STRUCTURED ESSAY QUESTIONS

3. A previously healthy 21-year-old woman presented with acute onset severe lower abdominal pain and fever. She had a right iliac fossa tenderness. Serum C-reactive protein levels were 60 mg/dL and blood counts showed neutrophil leukocytosis.

Laparoscopy revealed erythaematous and swollen right-side fallopian tube with surface purulent exudate and the clinical diagnosis of acute salpingitis was made.

- 3.1. Explain the underlying pathological mechanisms giving rise to the features observed in the fallopian tube. (40 marks)
- 3.2. Briefly explain the reasons for high C-reactive protein levels and abnormal blood counts. (20 marks)
- 3.3. Discuss the pathological basis for acute and long-term complications of salpingitis. (40 marks)

4.

- 4.1. List the clinical manifestations of tuberculosis of the female genital tract. (10 marks)
- 4.2. Briefly discuss the role of microbiological and immunological tests in the diagnosis of gynaecological tuberculosis (30 marks)

4.3 ~~3.3~~ Describe in detail the innate and acquired immune response to infection with *Mycobacterium tuberculosis*. (40 marks)

4.4 ~~3.4~~ Explain the immunological basis for the increased risk of reactivation of latent tuberculosis in human immunodeficiency virus (HIV) infection. (20 marks)

Contd..../3-

5. A 31-year-old mother after a normal vaginal delivery of a healthy baby about six hours ago continued to have excessive bleeding from vagina. She complained of feeling cold and dizziness, and was diagnosed having post-partum haemorrhage (PPH). She was given intravenous oxytocin immediately.

5.1. Describe the pharmacodynamics of oxytocin. (30 marks)

5.2. Describe the pharmacokinetics of oxytocin. (30 marks)

5.3. Discuss giving reasons four (04) precautions that should be taken when giving oxytocin for PPH. (30 marks)

5.4. Name four (04) other medicines which are recommended in the management of post-partum haemorrhage. (10 marks)

6.

6.1. In a MOH area, 100 pregnant women were screened for Gestational Diabetes Mellitus (GDM) using a new screening method. Twenty women were positive with this new screening method out of which, six were confirmed to have GDM by Oral Glucose Tolerance Test (OGTT), which was considered as the gold standard. Among women who were negative with this new screening method, 2 were found to have GDM by OGTT.

6.1.1. Present the above data in a 2 x 2 Table and calculate four (04) of the measures of validity of the screening test. (20 marks)

6.1.2. Discuss briefly giving reasons, whether this new test can be used to screen pregnant women for GDM. (25 marks)

6.2. You are requested to perform a criterion based clinical audit to analyse the impact of the severity of maternal anaemia on perinatal deaths.

6.2.1. Define the term "clinical audit". (15 marks)

6.2.2. While conducting the audit and adhering to the audit cycle, state one (01) indicator that you would select as your target level of performance. (10 marks)

6.2.3. While analyzing the results you obtain a mean haemoglobin of 10.4g/dL with a standard deviation of 0.6. Interpret these results. (20 marks)

6.2.4. State the statistical test that you would use to determine if the mean haemoglobin level of the sample is significantly different to that of the population. (10 marks)