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UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART (II) – (APRIL 2025)
Academic Year 2019/2020
Pathology Paper II (SEQ)

Date: 28. 04.2025 **Time: 03 hours**

ANSWER ALL THE **10** QUESTIONS
Write the answers in the given space below each question.

Index number: .....

1. A 58-year-old male with type 2 diabetes mellitus presents to the emergency department with pain, swelling, and redness over his left lower leg for the past 3 days. He also has fever (38.5°C), chills, and malaise. The affected area is warm, erythematous, and tender with ill-defined borders. His blood sugar is 280 mg/dL, and HbA1c is 9.2%.He is diagnosed with cellulites of left leg.

   1.1. Define Cellulitis. (10 Marks)

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   1.2. List two (02) common microorganisms responsible for cellulitis. (10 Marks)

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   1.3. Briefly describe the pathogenesis of Cellulitis and its clinical features seen in this patient. (30 Marks)

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   1.4. List the reasons for the increase incidence of cellulitis in poorly controlled type 2 diabetes mellitus. (15 Marks)

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1.5. List four (04) additional investigations for this patient. (10 Marks)

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1.6. Enumerate four (04) key principles of the management in this patient. (10 Marks)

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1.7. Write three (03) acute complications of progressive lower limb cellulitis. (15 Marks)

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2. A 53-year-old man was diagnosed to have pulmonary tuberculosis based on the clinical features and investigations. Exposure to *Mycobacterium tuberculosis* was documented 20 years ago. Chest X ray (CXR) and biopsy from the lesion were performed.

2.1. List five (05) clinical features of pulmonary tuberculosis. (10 Marks)

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2.2. Write the expected findings in the CXR of this patient. (10 Marks)

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2.3. Briefly describe the Histological appearance of the biopsy of his lung. (15 Marks)

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2.4. List two (02) other infectious and two (02) noninfectious causes for similar histological pattern. (20 Marks)

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2.5. Mention three (03) sites of extrapulmonary tuberculosis. (15 Marks)

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2.6. Mention two (02) clinical features for each extra pulmonary tuberculosis mentioned in 2.5. (30 Marks)

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3. A 55-year-old man presented with recurrent vomiting for three months. He had dyspepsia for the last seven years and was treated with antacids for symptom relief. The vomitus contained particles of previous day meals. He did not have loss of appetite or left supraclavicular lymph node enlargement.

3.1. Mention the likely clinical condition in this patient. (10 marks)
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3.2. Mention the most likely cause for the above condition. (10 Marks)
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3.3. List two (02) other causes for the condition mentioned in 3.1. (10 Marks)
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3.4. Mention five (05) likely symptoms and signs in this patient. (30 Marks)
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3.5. Give an investigation used to confirm the diagnosis. (10 marks)
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3.6. List five (05) likely metabolic abnormalities associated with the condition mentioned in 3.1. (30 Marks)
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4. 4.1. A 30-year-old woman presented with a solitary nodule. An ultrasound scan revealed hypoechoic thyroid nodule with microcalcifications. Fine needle aspiration cytology (FNAC) showed nuclear grooves.

4.1.1. Give three (03) lesions present with solitary nodule in thyroid. (15 Marks)

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4.1.2. Mention the most likely pathological diagnosis in this patient. (10 Marks)

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4.1.3. List three (03) histological features characteristic to the condition mentioned in 4.1.2. (15Marks)

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4.1.4. Give an important component of examination of neck in this patient. (05 Marks)

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4.1.5 Mention the prognosis of the disease mentioned in 4.1.2. (05 Mark

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4.2. A 60-year-old man presented with palpitations, weight loss, and a multinodular thyroid of four (04) months duration. His investigation findings are as follows:

T3	5.5	(2-4.4pg/ml)
T4	4.5	(0.9-1.4ng/dl)
TSH	0.02	(0.3-4.2 μIU/ml)

Ultrasound scan - heterogeneous nodules in thyroid.

4.2.1. Mention the most probable diagnosis. (05 Marks)

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4.2.2. How does the condition mentioned in 4.2.1 differ from Graves' disease in aetiology? (15 Marks)

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4.2.3. Mention the histological features that helps to distinguish the condition mentioned in 4.2.1 from Graves' disease. (10 Marks)

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4.2.4. Mention the mechanism of hyperthyroidism in the condition mentioned in 4.2.1. (05 Marks)

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4.2.5. Name two (02) long term complications that may occur in this patient. (10 Marks)

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4.2.6. Mention the treatment options for this patient. (05 Marks)

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5. A 40-year-old obese woman presented with recurrent right upper quadrant (RUQ) pain, especially after fatty meals of three (03) months duration. An Ultrasound scan revealed multiple gallstones in the gallbladder without ductal dilation.

5.1. Mention the most likely diagnosis. (10 Marks)
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5.2. Mention the three (03) main types of gallstones. (15 Marks)
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5.3. Explain the pathogenesis of stone formation in one the types mentioned in 5.2. (20 Marks)
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5.4. List five (05) potential complications if the patient left untreated. (15 Marks)
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5.5. Briefly mention the pathogenesis of gallstone pancreatitis. (25 Marks)
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5.6. List the laboratory markers that help to diagnose acute gallstone pancreatitis. (15 Marks)
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6. A 66 –year- old male presented with shortness of breath, fatigue, bilateral ankle oedema and cough, especially at nights when lying down for the last few months. On further questioning, he had to be propped up in the nights, recently. He is a known hypertensive which is poorly controlled for the last 30 years.

6.1. Mention the most probable diagnosis in this patient. (10 Marks)

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6.2. List five (05) causes for the condition mentioned in 6.1. (15 Marks)

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6.3. Briefly explain the pathophysiology of the condition mentioned in 6.1. (25 Marks)

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6.4. List five (05) blood investigations that need to be done in this patient and indicate the expected findings. (20 Marks)

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6.5. List four (04) complications of the condition mentioned in 6.1. (10 Marks)

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6.6. He succumbed to the illness in the intensive care unit in 5 days after admission. Mention the pathological post mortem changes that can be observed in the lungs of this patient. (20 Marks)

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7. A 17-year-old schoolgirl presents with fiendishness, sleepiness, and shortness of breath on exertion. Her Haemoglobin on admission is 5g/dL. Her condition is progressively worsening over last 6-8 months. She takes normal average diet.

7.1. State two (02) haematological investigations you would request together with FBC of this girl giving reasons. (25 Marks)

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7.2. State the expected findings of the two (02) tests mentioned in 7.1 if her anaemia is due to iron deficiency. (25 Marks)

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7.3. If her anaemia is due to iron deficiency, outline key questions would you ask to find out underlying cause for the iron deficiency giving reasons. (25 Marks)

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7.4. Her condition was confirmed as iron deficiency and started oral iron therapy. (25 Marks)
Outline how would you monitor her response to therapy.

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8. An adult patient presents with recent history of some bleeding manifestations.

8.1. Outline how you classify bleeding disorders with examples for each. (25 Marks)

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8.2. List three (03) haematological investigations you would request in the diagnosis of bleeding disorders and mention the defects which can be detected by each test. (25 Marks)

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8.3. Briefly describe pathological basis of one disorder mentioned in 8.2. (15 Marks)

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8.4. The patient developed excessive bleeding and required blood transfusions. During transfusion patient develops shortness of breath and hypotension.

8.4.1. State the most likely cause and your immediate actions. (15 Marks)

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8.4.2. Mention four (04) laboratory investigations you request in this patient immediately giving expected findings related to the cause mentioned in 8.4.1. (20 Marks)

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9. A 65- year- old male, admitted to the Accident & Emergency unit with severe pain in right calf and foot for few days. He experienced intermittent claudication for the last 2 years, and he developed rest pain four months back. Examination revealed cold right foot, and absence of posterior tibial and dorsalis pedis pulse.

9.1. Mention the most probable diagnosis. (10 Marks)

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9.2. Define the term intermittent claudication. (05 Marks)

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9.3. List five (05) risk factors for the condition mentioned in 9.1. (10 Marks)

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9.4. Mention the most common underlying cause of the disease mentioned in 9.1 and briefly explains the pathophysiology of it leading to the present state. (25 Marks)

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9.5. He also developed black discolouration of right 4th and 5th toes. (15Marks)
Mention the cause for black discolouration of his right 4th and 5th toes, and briefly explain the macroscopic features.

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9.6. List five (05) blood investigations that can be done in this patient with expected findings. (10 Marks)

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9.7. List two (02) other investigations that will help to arrive at the diagnosis mentioned in 9.1. (05 Marks)

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9.8. List four (04) complications that can occur in this patient. (20 Marks)

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10.

10.1 A 32- year- old female presented with fibrocystic disease of breast (FCD).

10.1.1. Mention two (02) clinical features of FCD. (05 Marks)

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10.1.2. Mention (02) gross and two (02) microscopic features of FCD. (10 marks)

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10.1.3. Mention two (02) diagnostic methods of FCD. (10 marks)

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10.2. A 57- year- old lady diagnosed to have Invasive Ductal carcinoma of breast (IDC).

10.2.1. Give two (02) clinical features of IDC. (05 marks)

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10.2.2. Mention two (02) gross and two (02) microscopic features of IDC. (10 marks)

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10.2.3. Mention five (05) risk factors of IDC. (10 marks)

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10.3. Endometrial hyperplasia.

10.3.1. Define endometrial hyperplasia. (15 marks)

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10.3.2. List the different types of endometrial hyperplasia. (20 marks)

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10.3.3. Mention five (5) risk factors associated with the development of endometrial hyperplasia. (15 marks)

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