

UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES (2ND) APRIL 2017
PATHOLOGY II

Date : 26.04.2017

Time allowed: 3 hours

Answer all **Ten (10)** questions

Answer each question in **separate** answer book

1.
 - 1.1 Define dysplasia (Include the characteristic features that can be observed in dysplasia). (20 marks)
 - 1.2 List **five** (05) conditions in the gastrointestinal tract in which dysplasia occurs. (20 marks)
 - 1.3 Describe **two** (02) of the conditions mentioned in 1.2 including risk factors, clinico-pathological features and outcome where appropriate. (60 marks)

2. A 62 year old woman was referred to the outpatient clinic with a history of lump in her right breast of four months duration. Clinically the lump was a malignant lesion.
 - 2.1 Mention the features on clinical examination that suggested the lump was a malignant lesion. (10 marks)
 - 2.2 Enumerate the risk factors for breast carcinoma. (10 marks)
 - 2.3 List the non-invasive investigations used to support the diagnosis. (05 marks)
 - 2.4 Describe the pathway of spread of breast cancer. (15 marks)
 - 2.5 Mention the investigations that help to identify the metastases of breast cancer. (15 marks)
 - 2.6 Describe the staging of breast cancer. (25 marks)
 - 2.7 How the histopathological investigations can contribute in the diagnosis of breast cancer and decide on further treatment? (20 marks)

3. A 65 year old man with a known history of systemic hypertension and diabetes mellitus presented to the emergency unit with sudden onset of weakness of the left upper and lower limbs and difficulty in speech.
 - 3.1 What is the most likely diagnosis? (05 marks)
 - 3.2 State **two** (02) possible pathogenic mechanisms for the above clinical state (05 marks)
 - 3.3 Describe the macroscopic and microscopic appearance of any **one** (01) of the pathogenic mechanisms that you mentioned in 3.2 (40 marks)
 - 3.4 Describe the pathogenesis of any **one** (01) of the mechanisms you mentioned in 3.2 (50 marks)

4. An unclaimed body of a 78 year old man found on the streets was brought by the police to the mortuary. At post mortem examination the body was associated with a strong scent of alcohol. External examination of the body did not reveal any significant finding. Internal organs revealed significant changes in the liver and heart suggesting links to the examination findings in the mortuary.
 - 4.1 State the possible pathological conditions found, that may affect the liver and heart. (15 marks)
 - 4.2 Describe the macroscopic and microscopic appearance of the liver and heart in the conditions you have mentioned. (80 marks)
 - 4.3 Give a possible cause of death. (05 marks)

5. A 62 year old previously healthy farmer presents with progressive dyspnoea on exertion. Examination revealed pallor. There was no hepatosplenomegaly or lymphadenopathy. The clinician suspects iron deficiency anaemia.
 - 5.1 Define anaemia. (10 marks)
 - 5.2 Describe red cell parameters you expect in automated Full Blood Count (FBC) report in iron deficiency anaemia. (values are not required. Use descriptive terms such as increase, decrease or normal) (20 marks)
 - 5.3 Describe the red cell findings in the peripheral blood picture report you expect in iron deficiency anaemia. (20marks)
 - 5.4 Describe the expected results in serum iron studies in iron deficiency. (values are not required. Use descriptive terms such as increase, decrease or normal) (20 marks)
 - 5.5 List **four** (04) diseases/conditions which can lead to iron deficiency in adult male. (10 marks)
 - 5.6 Briefly describe how you would monitor response to therapy. (20 marks)

6. Adult male diabetic patient was admitted to Intensive Care Unit (ICU) with suspected severe sepsis
 - 6.1 State changes expected in neutrophils in peripheral blood picture in severe sepsis. (20 marks)
 - 6.2 While being treated at ICU his condition worsened and developed purpura and ecchymoses with bleeding from cannula sites. State the most likely condition he is having now as a complication of severe sepsis. (10 marks)
 - 6.3 Describe pathological basis for the bleeding in condition mentioned in 6.2. (20 marks)
 - 6.4 Describe the red cell changes expected in peripheral blood picture of the condition stated in 6.2. (20 marks)
 - 6.5 List **four** (04) laboratory tests (except FBC and blood picture) you would do to arrive at a diagnosis, stating sample to be collected and expected findings for each test for the condition mentioned in 6.2. (20 marks)

- 6.6 List **four** (04) different causes (other than sepsis) for the condition mentioned in 6.2. (10 marks)
7. A 52 year old man presented with intermittent cough and low grade fever of one month. A chest X-ray showed an opacity in the upper lobe. A biopsy was performed and a granulomatous inflammation was diagnosed on histology.
- 7.1 Explain the pathogenesis of granulomatous inflammation. (30 marks)
- 7.2 List **five** (05) causes of granulomatous inflammation of the lung. (20 marks)
- 7.3 Explain the macroscopic and microscopic features of one (01) condition you mentioned in 7.2. (40 marks)
- 7.4 Name **two** (02) special histochemical stains you could employ in the differential diagnosis of granulomatous inflammation. (10 marks)
- 8.
- 8.1 A forty five year old man presented to the medical ward with muscle weakness, polyuria, depression and nausea. His serum total corrected Calcium was 2.91 (reference interval – 2.10- 2.54). He was further investigated.
- 8.1.1 If it is due to a hormonal imbalance what can be the cause for hypercalcaemia in this patient? (10 marks)
- 8.1.2 List **two** (02) other investigations that will help with the diagnosis mentioned in 8.1.1 giving the expected findings (10 marks)
- 8.1.3 If the patient was diagnosed to have a malignancy, list the possible reasons for hypercalcaemia in this condition. (20 marks)
- 8.1.4 List **one** (01) other cause for hypercalcaemia other than that was mentioned above. (10 marks)
- 8.2
- 8.2.1 What is endometrial hyperplasia? (20 marks)
- 8.2.2 Describe the different histological types of endometrial hyperplasia. (30 marks)
9. Mention
The Diagnosis,
Briefly the pathogenesis,
The pathological features and two complications of the following conditions.
- 9.1 A 55 year old man complained of severe abdominal pain of one week duration. On examination a pulsatile abdominal mass was palpated. (50 marks)
- 9.2 A 19 year old man presented with intermittent, high grade fever of more than two weeks duration. Examination revealed pansystolic murmur over the precordial region. He is on prophylactic treatment for rheumatic fever since 17 years of age. (50 marks)

10.

- 10.1 Briefly discuss the pathological basis of stone formation in the urinary tract. (30 marks)
- 10.2 What are the relevant informations you can gather in the urine analysis in a patient with urolithiasis. (25 marks)
- 10.3 Enumerate the complications of urolithiasis. (15 marks)
- 10.4 Briefly discuss on pathological basis, **one** (01) of the complications mentioned in 10.3 (30 marks)