

**UNIVERSITY OF JAFFNA, SRI LANKA SECOND  
EXAMINATION FOR MEDICAL DEGREES—PART (II)  
(1<sup>st</sup>)-AUGUST 2014-Pathology -Paper II**

Date: 06.08.2014.

Time: 03 hours

ANSWER ALL TEN QUESTIONS

Answer each question in separate answer book

1. Briefly discuss the macroscopic appearance and pathological sequelae of the following.
  - 1.1. Chronic gastric ulcer. (50Marks)
  - 1.2. Crohn disease of intestine. (50Marks)
2. 2.1.A 30 year old healthy man develops high fever, productive cough and malaise following upper respiratory tract infection. The total leucocyte count show neutrophil leukocytosis. Chest radiograph shows consolidations and plural effusion. The plural aspirate is purulent.
  - 2.1.1. What is your diagnosis? ( 5Marks)
  - 2.1.2. Describe the pathology (macroscopy and microscopy) of the above. (40Marks)
  - 2.1.3. List five (5) complications of the above condition. ( 5Marks)
- 2.2. A 68 year old man who has been a heavy smoker for the past 45 years presented with a severe cough with haemoptysis for one month. The chest radiograph showed a right perihilar 4cm mass.
  - 2.2.1. List five (5) different types of specimens that can be sent to (10Marks) a histopathology laboratory from this lesion to confirm the diagnosis.
  - 2.2.2. A diagnosis of lung carcinoma was confirmed by histology. (15Marks) List the histological types of this carcinoma?
  - 2.2.3. Briefly describe the pathological (macroscopy & microscopy) features of one of the histological types mentioned in 2.2.2. (25Marks)

3. A 22 year old female is found to have mitral valve prolapse when undergoing a routine medical examination.
- 3.1. Describe the morphology (macroscopic and microscopic) of the mitral valve in this patient. (25 Marks)
  - 3.2. State the pathogenic basis of mitral valve prolapse. (15 Marks)
  - 3.3. List 3 complications of mitral valve prolapsed. (30 Marks)
  - 3.4. List three other conditions that can affect the mitral valve function. (15Marks)
  - 3.5. Briefly state how these conditions mentioned in 3.4 affect the mitral valve. (15Marks)
4. A 2 year old boy is brought with a painful and swollen knee joint following a minor fall. On examination he is afebrile and has no lymphadenopathy or hepatosplenomegaly. He is suspected to have a bleeding diathesis. His coagulation profile is given below.
- Prothrombin time — 12 seconds (normal 10 — 13 seconds)  
APTT — 52 seconds (normal 28 — 36 seconds)  
Thrombin time — 12 seconds (normal 10 — 13 seconds)  
Fibrinogen level — 2.01 (normal 1.5 — 4.0 Op
- 4.1. What is your most likely diagnosis? ( Marks)
  - 4.2. List three (3) conditions that give rise to an isolated prolonged APTT. ( 15Marks)
  - 4.3. What investigations would you do to confirm your diagnosis? State the expected findings of the investigations that you mention. ( 30Marks)
  - 4.4. What questions would you ask the child's mother with regards to this bleeding disease? ( 15Marks)
  - 4.5. What blood products are available for treatment of this child? ( 10Marks)
  - 4.6. What advice would you give the mother who wants to have another child, regard the probability of next child having the same bleeding disease? ( 20Marks)

5. 5.1.A 58 year old woman sees her physician for a routine health checkup. The only abnormality on physical examination is a blood pressure of 160/110 mm Hg.  
Urine analysis pH - 7.0  
Specific gravity 1.020  
Proteinuria 1+  
No blood, glucose or Ketone bodies  
Abdominal USS- Bilateral symmetrically small kidneys with no masses  
ANA — Negative  
Serum urea nitrogen level 8.5 mmol L (3- 8 mmol / L)  
Serum creatinine 0.41 mmol L (0.06- 0.12 mmol /L)  
Hb A1c - Normal
- 5.1.1. What is the most likely diagnosis? ( 10Marks)
- 5.1.2. Briefly describe how you arrive at the above diagnoses by analyzing the provided information. (15 Marks)
- 5.1.3. Describe the pathological features of this patient's kidney. 25Marks)
- 5.2. A 45 year old lady presents to the gynecology clinic with irregular bleeding per vagina for four months.
- 5.2.1. List five possible causes for her complain. ( 10Marks)
- 5.2.2. Briefly describe the aetiopathogenesis, and pathological features of two (02) of the causes mentioned in 5.2.1 ( 40Marks)
6. Describe the renal changes in **diabetes mellitus**. ( 1 0Marks)

7. A 60 year old male with long standing poorly controlled hypertension presents with a "stroke". The MRI scan reveals a cerebral infarct.
- 7.1. Define cerebrovascular disease. (10Marks)
- 7.2. List three main pathogenic mechanisms that involve in the development of cerebrovascular disease. (15 Marks)
- 7.3. Describe how this patient's hypertension contributed to the development of a cerebral infarct. (20 Marks)
- 7.4. List four (4) risk factors other than hypertension for development of cerebrovascular disease. (20Marks)
- 7.5. Describe the evolution and pathological appearances of a non haemorrhagic infarct in the brain. (35Marks)
8. Mention:  
**Two (2) differential diagnosis(DD),**  
**One (1) aetiology for each DD**  
**Microscopic feature of one of the differential diagnosis**  
**and**  
**Two (2) laboratory investigations** that will to confirm the diagnosis in each of the following condition
- 8.1. A 21 year old university student presented with loss of weight, low grade fever, night sweat and enlarged cervical **lymph node** of the right side. (50Marks)
- 8.2. 55 year old alcoholic male presented with anorexia, right hypochondrial pain and palpable liver. (10Marks)  
Ultra sound abdomen reveals a **space occupying lesion**.

9. A 68 year old previously healthy male presented with fatigue and breathlessness on even mild exertion for three months duration. Investigations revealed normocytic anaemia, impaired renal function, elevated ESR and lytic lesion on skull X-ray.
- 9.1. List four(4) causes of normocytic anaemia ( 10Marks)
  - 9.2. List four(4) causes of elevated ESR of more than 100. ( 10Marks)
  - 9.3. Mention the most likely cause that will explain his present condition. ( 20Marks)
  - 9.4. List 2 other investigations that would be useful to confirm the diagnosis you mentioned in 9.3. ( 20Marks)
  - 9.5. Mention four (4) causes for the renal impairment in the condition you mentioned in 9.3. ( 20Marks)
  - 9.6. Briefly describe the pathogenesis of bone lesion in the condition you mentioned in 9.3. (20 Marks)
10. A 45 year old female presented with a solitary thyroid nodule on the right side of the thyroid gland of 6 months duration. She also complains of loss of weight and loss of appetite for the past 1 month.
- 10.1. A thyroid neoplasm is suspected in this patient. List two (2) commonest malignant neoplasms which are possible in this patient. ( 10Marks)
  - 10.2. Describe the histological features of the neoplasms mentioned in 10.1. ( 40Marks)
  - 10.3. Describe the value of FNAC and biopsy in the differential diagnosis of neoplasms mentioned in 10.1. ( 20Marks)
  - 10.4. List two (2) common complications that can occur after total thyroidectomy. (10 Marks)
  - 10.5. List two (2) relevant blood tests that will useful to identify the each of the complications mentioned in 10.4 and indicate the abnormalities expected. ( 20Marks)