

**UNIVERSITY OF JAFFNA, SRI LANKA**  
**SECOND EXAMINATION FOR MEDICAL DEGREES (1<sup>st</sup>) – AUGUST 2015**  
**PATHOLOGY**  
**Paper II**



**Date: 05.08.2015.**

**Time: 3 hours**

**ANSWER ALL TEN QUESTIONS**

Answer each **QUESTION** in separate answer book

1.
  - 1.1 Enumerate the premalignant lesions / predisposing factors in the following conditions
    - 1.1.1. Carcinoma of oesophagus (15 Marks)
    - 1.1.2. Colorectal carcinoma (15 Marks)
  - 1.2 Briefly describe the pathogenesis of adenocarcinoma occurs in
    - 1.2.1. Oesophagus (35 Marks)
    - 1.2.2. Colorectum (35 Marks)
2. A 38 year old male patient presented with recurrent episodes of loin pain, fever and malaise of six months duration. Urine appeared cloudy and contained pus cells and red cells. Ultrasound scan showed a kidney reduced in size with dilatation of the pelvicalyceal system.
  - 2.1 What is this condition called? (10 Marks)
  - 2.2 What are the macroscopic and microscopic features you would expect to see in the kidney of this patient? (60 Marks)
  - 2.3 Name three(03) predisposing causes of the above condition (15 Marks)
  - 2.4 What are the complications of this condition (15 Marks)
3.
  - 3.1 List three (03) causes of left heart failure. (30 Marks)
  - 3.2 List three (03) causes of right heart failure (30 Marks)
  - 3.3 Describe the effects of left heart failure (40 Marks)
4. A patient presented with headache, confusion and mental slowness was found to have a cerebral neoplasm leading to raised intracranial pressure.
  - 4.1. List five (05) histological types of cerebral neoplasms. (40 Marks)
  - 4.2. List two (02) other causes for raised intracranial pressure. (20 Marks)
  - 4.3 Describe the pathological effects (macroscopy only) of raised intracranial pressure in the brain (40 Marks)

5. Mention

**The diagnosis,  
One investigation to support /exclude the diagnosis,  
Briefly the pathogenesis, and  
Three (03) complications** of the following conditions.

5.1 A 42 year-old obese woman presented to the emergency ward with the history of severe, constant right upper quadrant (RUQ) pain, nausea and vomiting after eating fried chicken for dinner. The pain radiates to her upper back. She also had a mild fever

Three months ago she developed intermittent, sharp RUQ pain. On physical examination there was moderate RUQ tenderness on palpation, but no evidence of jaundice.

(50 Marks)

5.2 A 45-year-old man presented to primary care physician with a 2-month history of intermittent upper abdominal pain. The pain was a dull, gnawing ache.

The pain wakes him at night, is relieved by food. He had a similar but milder episode about 2 years ago and treated by primary care physician.

Physical examination reveals only mild epigastric tenderness on palpation of the abdomen.

(50 Marks)

6. A 20 year old girl presented with easy bruising. She gives a history of menorrhagia since menarche. Her haemoglobin (Hb) is 8g/dl and MCV of 60fl.

She is suspected to have iron deficiency anaemia

6.1. List three (03) abnormalities that you would see in her blood picture.

(15 Marks)

6.2. List three (03) abnormalities that you would see in her iron studies.

(15 Marks)

Her coagulation screen is provided.

Prothrombin time – 12 seconds

APTT – 55 seconds (normal 28 – 32 seconds)

Thrombin time – 12 seconds (normal 10 – 13 seconds)

- 6.3 Which pathway of the coagulation system is most affected in this patient? (10Marks)
- 6.4. What are the coagulation factors involved in this pathway? (20 Marks)
- 6.5. What is the most likely cause for her bleeding condition? (20 Marks)
- 6.6. What further tests would you do to confirm her diagnosis? (10 Marks)
- 6.7. What abnormality do you expect to see in the investigations that you mention in 6.6. (10 Marks)
7. 7.1 A 55 year old man complains of gradually increasing dyspnea and weight loss over past two years. He has been a heavy smoker for last 20 years. The chest radiograph shows bilateral hyper lucency which is marked in the upper lobes. Lung function studies show markedly decreased FEV1, decreased FEV1/FVC and normal FVC.
- 7.1.1. What is the most probable diagnosis? (10 Marks)
- 7.1.2. Discuss the pathogenesis of the above process (30 Marks)
- 7.1.3. Describe the pathological features of the above condition (20 Marks)
- 7.2. A 44 year old man admitted to surgical ward with acute abdomen and was diagnosed to have acute pancreatitis. He developed respiratory distress and the chest radiograph showed diffuse pulmonary infiltrates. He was transferred to ICU and ventilated with 100% oxygen.
- 7.2.1. What is the most probable diagnosis? (10 Marks)
- 7.2.2. Discuss the pathogenesis of the above process (15 Marks)
- 7.2.3. Describe the pathological features of the above condition (15 Marks)



8. Mention  
**One (01) differential diagnosis,**  
**Two (02) aetiological factors / risk factors and**  
**The morphological appearance of target organ/ lesion**  
of the following.
- 8.1 A 60 year old man was admitted with sudden onset of central chest pain of 1 day duration. (30 Marks)
- 8.2 A 16-year-old boy presented with a three-year history of recurrent discharging right thigh sinus. (35 Marks)
- 8.3 60 year old female presented with bloody nipple discharge and 3cm x 2cm size of lump on left side of the breast. (35 Marks)
9. 9.1. A previously well 30 year old lady presented to her doctor with giddiness and nausea of one month duration. Her blood pressure was 90/ 50 mmHg. Her renal profile, full blood count and liver profile were normal except the following.  
Serum Sodium 126 mmol/L (136- 145)  
Serum Potassium 5.3 mmol/L (3.5-5.2)
- The patient defaulted follow-up. Three months later she collapsed and was resuscitated and admitted to the emergency unit. Her blood investigations showed the following.  
Serum Sodium 115 mmol/L (136- 145)  
Serum Potassium 6.7 mmol/L (3.5-5.2)
- 9.1.1. What is the most probable diagnosis in this patient? (10 Marks)
- 9.1.2. Give two (02) aetiologies for this condition. (10 Marks)
- 9.1.3. Describe the pathogenesis of the condition you mentioned in 9.1.1. (30 Marks)
- 9.1.4. List one other specific investigation that will help in the diagnosis of this patient. (10 Marks)
- 9.2. A 16 year old girl presented to the medical clinic with the history of short stature.
- 9.2.1. List two (02) endocrine causes for short stature in this patient. (10 Marks)
- 9.2.2. Mention two (02) relevant investigations and expected findings that will confirm each of the conditions mentioned in 9.2.1. (30 Marks)

**10**

A 32 year old lady presented with jaundice. On examination she was pale and had mild splenomegaly. Autoimmune haemolytic anaemia was suspected.

- 10.1.** List three (03) investigations and the expected findings that will confirm the haemolysis. (15 Marks)
- 10.2.** List two (02) abnormalities you will observe in her blood film. (10 Marks)
- 10.3.** Mention the investigation and the expected results that will confirm the autoimmune nature of her haemolytic anaemia (05 Marks)
- 10.4.** Mention one (01) hereditary haemolytic anaemia that will have the same blood film abnormalities you mentioned in 10.2. (05 Marks)
- 10.5.** List three (03) hereditary haemolytic anaemias other than the one you mentioned in 10.4. (15Marks)
- 10.6.** List two (02) types of autoimmune haemolytic anaemia (10 Marks)
- 10.7.** Mention two (02) causes for each of the types you mentioned in 10.6. (20 Marks)
- 10.8.** Mention one nutritional deficiency anaemia that is commonly associated with severe haemolytic anaemia due to increased utilization. ( 10Marks)
- 10.9.** List two (02) abnormalities you can observe in the blood film in the condition you mentioned in 10.8. (10Marks)