

## MANIPAL UNIVERSITY

## MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2011

## SUBJECT: PATHOLOGY – I (ESSAY)

Saturday, February 12, 2011

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

- ✍ Answer ALL questions.
- ✍ Write brief, relevant and legible answers.
- ✍ Draw diagram, flow charts wherever appropriate.

1. In a tabular format, compare apoptosis and necrosis. (5 marks)
2. Describe the role of macrophages in chronic inflammation. (5 marks)
3. A 30 year old pregnant woman presents with easy fatigability and tiredness. On examination she was found to have pallor.  
Mention two possible causes of anaemia in this woman. Discuss the lab investigations of both. (1+4 = 5 marks)
4. List two examples of DNA and RNA oncogenic viruses and the tumours caused by them. What are the steps involved in DNA and RNA viral oncogenesis. (1+4 = 5 marks)
5. A 58 year old male presented with weight loss, malaena and altered bowel habits. Colonoscopy revealed a large irregular mass in the ascending colon with multiple small polyps in the surrounding mucosa.
  - a) Describe the morphology of the large irregular colonic mass.
  - b) Explain the relationship between the polyps and the mass in this case. (2+3 = 5 marks)
6. Describe the aetiopathogenesis and morphology of hepatocellular carcinoma. (3+2 = 5 marks)
7. Describe the aetiopathogenesis of rheumatoid disease. (5 marks)

8. A 42 years old lady presented with on and off, severe, one sided headache, which became continuous. CT scan revealed a parasagittal circumscribed tumour with overlying hyperostosis of skull bone. The patient recovered after operation.
- What is your diagnosis and describe the pathological features of this condition?
  - Classify tumours of the central nervous system.

(2½+2½ = 5 marks)

9. A 75 year old lady with calcific valve disease develops high grade fever with chills. A murmur is heard on auscultation. Echocardiography reveals mass lesion on the valves. Describe the pathogenesis and morphology of the lesions on the cardiac valves. What are the complications of the above condition?

(3+2 = 5 marks)

10. A 45 year old man presented with chronic cough and copious amount of bad smelling sputum. Clinical examination showed finger clubbing and coarse basal crepitations.
- What is your diagnosis?
  - Describe the aetiology and complications of this condition.

(½+4½ = 5 marks)

11. Describe the risk factors and prognostic factors of carcinoma breast.

(2½+2½ = 5 marks)

12. In a tabular format compare adult and childhood polycystic kidney disease.

(5 marks)



1/09 (Batch 24)  
March '09 (Batch 2)

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## MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2011

SUBJECT: PATHOLOGY – II (MCQs)

Saturday, February 12, 2011

Time: 11:30 – 12:30 Hrs.

Max. Marks: 120

### INSTRUCTIONS

1. For each statement, select **T** (True) or **F** (False) as your choice.
2. Indicate your choice by darkening the appropriate circle in the answer sheet provided.
3. Use only HB or 2B pencils to darken the circle.
4. Leave blank for Don't Know response.
5. Scoring systems is as follows:

For every <b>Correct</b> response	<b>1</b> mark is awarded
For every <b>Wrong</b> response	<b>0.5</b> mark is deducted
For every <b>Don't Know</b> response	<b>No</b> mark is deducted
6. Indicate your roll number (Registration Number) clearly and correctly.
7. Do not write anything in the question paper.
8. The true/false statements are numbered 101 to 160 and 201 to 260 (Total 120 statements).
9. This question paper contains **04 pages**. Please make sure that the question paper provided to you has all the pages.

### Hydropic change

101. Is due to accumulation of fluid
102. Causes affected cell to shrink
103. Is an irreversible change

### Karyotyping is useful for detection of

104. Thalassemia
105. Down's syndrome
106. Haemophilia

### The following terminologies match with the given meaning

107. Proud flesh : Excessive collagen formation
108. Keloid : Exuberant granulation tissue
109. Callus : Mass of new, lamellar bone
110. Organisation : Repair of specialized tissue by the formation of a fibrous scar

### Functions of neutrophil in acute inflammation include

111. Intracellular killing of micro-organisms
112. Phagocytosis
113. Production of oxygen derived free radicals
114. Production of immunoglobulin

### Cardinal signs of acute inflammation are

115. Calor
116. Pallor
117. Tumour

### Systemic effects of inflammation include

118. Pyrexia
119. Weight loss
120. Leucopenia

### Multiple myeloma

121. Commonly occurs in the young
122. Is malignant proliferation of plasma cells in the bone marrow
123. Is associated with hyperviscosity due to IgM paraproteins
124. Often causes renal failure

### Regarding acute leukaemia

125. Auer rods are seen in ALL-L1
126. AML-M3 is associated with gum hypertrophy
127. t(15;17) has bad prognosis

### In disseminated intravascular coagulation

128. Platelet count is often low with prolonged PT and APTT
129. Pathogenesis centres on increased platelet destruction
130. Organ dysfunction may manifest as hepatic or renal failure

### Regarding chemical carcinogenesis

131. Nitrates used in fertilizers get converted to nitrosamines by the gut commensals to cause gastrointestinal cancer
132. Aromatic amines have to be hydroxylated in the liver before they exert their carcinogenic effect
133. The high incidence of liver cancer in Uganda is because of high consumption of stored groundnuts containing aflatoxins

### The following tumour markers and the tumours are correctly matched

134. Calcitonin : Parathyroid carcinoma
135. 5-hydroxyindole-acetic acid (5-HIAA) : Pheochromocytoma
136. Prostate specific antigen (PSA) : Testicular tumours

### The following tumours are correctly matched with their cell of origin

137. Rhabdomyoma : Skeletal muscle
138. Lymphoma : Fibroblasts
139. Chondroma : Adipose tissue
140. Seminoma : Germ cells

### Premalignant lesions of the stomach include

141. Chronic gastritis
142. Acute gastritis
143. Cushing's ulcer

### Regarding leukoplakia

144. Clinically it appears as a white plaque in the oral mucosa which cannot be removed
145. It is characterized by hyperplasia and hyperkeratosis of the squamous epithelium
146. It is a pre-malignant lesion predisposing to adenocarcinoma of the oral cavity

### Helicobacter pylori can cause the following gastrointestinal lesions

147. Chronic gastritis
148. Barrett's oesophagus
149. Gastric lymphoma
150. Chronic duodenal ulcer

**Acute cholecystitis**

- 151. Is usually caused by gall stones
- 152. Has thickened gall bladder wall due to fibrosis
- 153. Shows Rokitansky-Aschoff sinuses histologically

**Chronic hepatitis**

- 154. Is defined as inflammation of the liver lasting atleast 6 months without evidence of resolution
- 155. Is usually associated with hepatitis B and C
- 156. Histologically shows fibrosis, bridging necrosis and dense chronic inflammatory cell infiltrate

**Regarding the pathophysiological basis of clinical features in chronic liver disease**

- 157. Hematemesis : Ruptured esophageal varices
- 158. Infection : Increased Kupffer cell function
- 159. Spider naevi : Hypoestrogenism
- 160. Purpura and bleeding: Reduced clotting factor synthesis

**Laboratory findings in systemic lupus erythematosus include**

- 201. Hypergammaglobulinaemia
- 202. Leucopenia
- 203. Thrombocytosis
- 204. Raised C-reactive protein

**Gout**

- 205. Generally presents as an acute inflammatory polyarthritis
- 206. Can be associated with obesity and alcoholism
- 207. Can have a familial tendency

**Ewing's tumour**

- 208. Is a benign tumour
- 209. Radiologically shows sunburst appearance
- 210. Arises from primitive neuroectodermal elements

**Dystrophic calcification**

- 211. Occurs as a result of hypercalcaemia
- 212. Is seen in diseased tissues
- 213. Commonly affects atheromatous plaques and old tuberculous lesions

**Regarding oedema**

- 214. Inflammatory oedema results from increased intravenous pressure

- 215. Nephrotic syndrome and liver failure results in hypoalbuminaemic oedema
- 216. Venous oedema occurs due to reduced plasma oncotic pressure

**Regarding Alzheimer's disease**

- 217. It is the commonest demyelinating disease affecting CNS
- 218. Parietal and occipital lobes are commonly involved
- 219. Shows Aβ amyloid plaque
- 220. Cholinergic activity in the cerebral cortex increases

**Regarding atherosclerosis**

- 221. Turbulent blood flow plays an important role in the pathogenesis of atherosclerosis
- 222. There is decreased expression of ICAM-1 and E-selectin
- 223. Plaques vulnerable for rupture have a large fibrocalcific component with little inflammatory component

**Regarding malignant hypertension**

- 224. It can occur in previously fit individuals
- 225. The characteristic histological lesion seen is intimal proliferation and hyalinization of the muscular media
- 226. It can cause sudden death from cerebral haemorrhage

**Complications of myocardial infarction include**

- 227. Ventricular fibrillation
- 228. Mural thrombosis
- 229. Cardiomyopathy
- 230. Pericarditis

**Pathological features seen in bronchial asthma include**

- 231. Mucus gland hyperplasia
- 232. Cholesterol crystals in sputum
- 233. Bronchial obstruction with distal over inflation
- 234. Squamous metaplasia of bronchial epithelium

**Regarding tuberculosis**

- 235. It is an example for type III hypersensitivity reaction
- 236. In miliary tuberculosis, Mantoux test is frequently negative
- 237. Focus of primary tuberculosis of lung is located in the apices of lung

### **Small cell lung carcinoma**

- 238. Can manifest as hypercalcaemia
- 239. Metastasizes early
- 240. Arises from type II pneumocytes

### **Fibroadenoma**

- 241. Is immobile on palpation
- 242. Is the commonest benign tumour of the breast
- 243. Is common in the fifth decade
- 244. Are usually multiple

### **Regarding Human Papilloma Virus (HPV) and its role in cervical cancer**

- 245. HPV 6 and 11 are commonly associated with invasive cervical cancer
- 246. HPV causes mutation of p53 gene
- 247. High risk HPV types are integrated into the host genome

### **Regarding malignant thyroid tumour**

- 248. Papillary adenocarcinoma is most commonly found in elderly patients
- 249. Medullary carcinoma is derived from the thyroid follicular cells
- 250. Follicular adenocarcinoma characteristically metastasizes via lymphatics

### **Regarding renal transplantation**

- 251. Acute humoral rejection is characterized by brisk interstitial infiltrate of activated lymphoblasts and T cells
- 252. Hyperacute rejection is due to preformed complement fixing antibodies in the blood stream of recipient
- 253. Vascular changes dominate in chronic rejection
- 254. It is classified by Banff classification

### **Regarding pyelonephritis**

- 255. Acute pyelonephritis is characterized by coarse scarring and contraction of the kidneys
- 256. Renal papillary necrosis is a complication of acute pyelonephritis
- 257. In infancy, girls are mainly affected because of anatomical abnormalities

### **Renal cell carcinoma**

- 258. Is common in childhood
- 259. Has homogenous and yellow appearance on gross examination
- 260. Is composed of clear or granular cells on microscopy

