

**MANIPAL UNIVERSITY**  
**MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2015**  
**SUBJECT: PATHOLOGY – I (ESSAY)**

Wednesday, February 11, 2015

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

1. Define necrosis. Mention the characteristic morphologic features of the type of necrosis seen in:
  - a) Myocardial infarction
  - b) Acute pancreatitis
  - c) Malignant hypertension
  - d) Cerebro-vascular accident

(1+4 = 5 marks)
2. Write a note on the causes and essential macroscopic appearances of acute inflammation.

(2+3 = 5 marks)
3. With the help of a concept map, depict the aetiopathogenesis and laboratory findings of disseminated intravascular coagulation.

(3+2 = 5 marks)
4. What are tumour suppressor genes? Explain their role in carcinogenesis with special emphasis on Rb gene and p53 gene.

(1+2+2 = 5 marks)
5. Discuss the etiology and morphology of carcinoma of the oesophagus.

(2+3 = 5 marks)
6. Classify jaundice. Mention the causes and pathological features of different types of jaundice.

(1+1+3 = 5 marks)
7. Describe the clinicopathological features of malignant melanoma.

(5 marks)
8. Define shock. Explain the mechanism of hypovolaemic shock.

(1+4 = 5 marks)
9. A 45-year-old lady with a prosthetic valve develops high grade fever with chills. The patient also has nail bed hemorrhages, painful nodules on the tips of her fingers and toes. What is your diagnosis? Describe the morphology and complications of this disease.

( $\frac{1}{2}$ +4 $\frac{1}{2}$  = 5 marks)

10. Michael, a 6-year-old student, came to the OPD with complaints of evening rise of temperature, weight loss and chronic cough. On laboratory investigations, he had elevated ESR and his X-ray lung showed a cavity.

What is your diagnosis? What are the clinicopathological features of this disease?

( $\frac{1}{2}+4\frac{1}{2} = 5$  marks)

11. A 36-year-old woman with a history of 3 miscarriages comes with a history of amenorrhoea of 2 months. On examination the obstetrician finds that her uterus is 'large for date'.

What could be the above condition? With the help of suitable diagrams explain the pathology of this condition.

( $\frac{1}{2}+4\frac{1}{2} = 5$  marks)

12. Compare two types of polycystic kidney disease on the basis of inheritance, clinical presentation, morphologic features and clinical course.

( $1+1+2+1 = 5$  marks)



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MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2015

SUBJECT: PATHOLOGY – II (MCQs)

Wednesday, February 11, 2015

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	1 mark is awarded
For every <b>Wrong</b> response	0.5 mark is deducted
For every <b>Don't Know</b> response	No 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.

### **Down' syndrome**

101. Is a sex chromosomal disorder
102. Is also known as trisomy 21
103. Is more often seen in children of elderly mothers
104. Children have a greater risk of developing leukaemia

### **Barr body**

105. Is also known as sex chromatin
106. Is seen attached to the cytoplasmic membrane
107. Is absent in Turner's syndrome

### **The following terms are correctly defined:**

108. Eponym: The evolution of a disease (the beginning and progress of a disease)
109. Prognosis: The forecast of probable length of survival or disease free state
110. Pathognomonic: Pathological feature characteristic of a disease

### **Chemical mediators involved in chemotaxis of neutrophils include**

111. Complement components
112. Leukotriene B<sub>4</sub>
113. Bradykinin

### **Regarding formation of cellular exudate in acute inflammation, margination of neutrophils is facilitated by**

114. Loss of intravascular fluid
115. Decrease in plasma viscosity
116. Slowing of blood flow

### **In the cellular events of chronic inflammation**

117. T-lymphocytes on contact with an antigen get transformed into a plasma cell
118. The cytokines released help in the recruitment of macrophages into the area
119. Interferon  $\gamma$  has anti-viral properties
120. The factor perforin is unable to destroy the target cells

### **The laboratory investigations in a 28 year old pregnant female are as follows: Hb 8gm/dl, PCV 26%, MCV 67fl, MCH 24 pg, MCHC 28 g/dl**

121. The patient has iron deficiency anemia
122. The cause of the anaemia in this case is chronic blood loss
123. The RBC count would be  $6.0 \times 10^{12}$  g/litre

### **Chronic myeloid leukaemia is associated with**

124. Numerous blasts in the peripheral smear
125. Massive splenomegaly
126. Reduced leukocyte alkaline phosphatase
127. Philadelphia chromosome

### **Regarding lymphoma**

128. Non-Hodgkin's lymphoma is characterized by Reed Sternberg cells
129. Hodgkin's lymphoma is classified by the Ann Arbor classification
130. Burkitt's lymphoma shows a typical starry sky appearance under the microscope

### **Regarding hamartomas**

131. These are tumors of germ cell origin
132. They have strong malignant potential
133. Adenochondroma of the lung is an example

### **Regarding polycyclic aromatic hydrocarbons**

134. They are potent chemical carcinogens strongly linked with smoking
135. They are implicated in causation of lung and skin cancers
136.  $\beta$ -naphthylamine is an example of a chemical in this group

### **Tumor stage depends on**

137. Mitotic activity
138. Lymph node involvement
139. Degree of resemblance to parent tissue
140. Metastasis

### **Regarding acute gastritis**

141. It is usually due to chemical injury
142. An acute neutrophilic gastritis never occurs in H. pylori infection
143. It is associated with regenerative hyperplasia of pit lining epithelium

### **Peptic ulcers**

144. Tend to occur at mucosal junctions
145. Can cause perforation as a complication
146. Have shaggy edges

### **Regarding Crohn's disease**

147. It is usually segmental
148. It is associated with aphthoid ulcers
149. It has inflammation confined to the mucosa
150. The classical microscopic feature is the crypt abscess

### **Acute cholecystitis**

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

### **Wilson's disease**

- 154. Is an inherited disorder of copper metabolism
- 155. Is recognized by Kayser-Fleischer rings at corneal limbus
- 156. Is associated with high serum ceruloplasmin

### **Cholelithiasis**

- 157. Results from a deficit of bile salts
- 158. Is usually composed of a mixture of cholesterol and calcium carbonate
- 159. In hemolytic anemia is of the cholesterol type
- 160. Predisposes to carcinoma of the gall bladder

### **Malignant bone tumours**

- 201. Are commonly secondary deposits from carcinomas of other sites
- 202. Rarely metastasise and are often seen in older individuals
- 203. Like osteosarcoma are characterised histologically by pleomorphic and mitotically active osteoblasts associated with osteoid

### **Osteoarthritis**

- 204. Is a chronic inflammatory disorder
- 205. Produce characteristic nodular swellings called Heberden's nodes
- 206. Have considerably raised levels of serum immunoglobulins and characteristic auto-antibody production

### **In cases of tuberculoid leprosy**

- 207. Caseous necrosis is present
- 208. The cell mediated immunity is good when compared to lepromatous leprosy
- 209. Grenz zone and globi are present microscopically
- 210. Epithelioid granulomas are present

### **Regarding gangrene**

- 211. Dry gangrene is seen as a complication of diabetes mellitus
- 212. Wet gangrene occurs in the intestine

- 213. Clostridium tetani produces gas gangrene
- 214. The black colour is due to iron sulphide

### **A thrombus**

- 215. Is a solid, liquid, or gaseous mass in the intact vascular system
- 216. Of arterial origin is most commonly superimposed on an atheroma
- 217. Is associated with the formation of layers resembling red currant jelly and chicken fat

### **Metastatic calcification**

- 218. Is a cause of psammoma bodies in meningioma
- 219. Is associated with hypercalcaemia
- 220. May be seen in hyperparathyroidism

### **Secondary hypertension can be caused by**

- 221. Chronic renal failure
- 222. Pheochromocytoma
- 223. Coarctation of aorta

### **Causes of heart failure in adults include**

- 224. Ischaemic heart disease
- 225. Systemic hypotension
- 226. Chronic obstructive pulmonary disease

### **Fatty streaks**

- 227. Are seen in the tunica media
- 228. Are composed of masses of lipid laden macrophages
- 229. Progress to fibrolipid plaques
- 230. Can cause ischaemic attacks

### **Regarding asbestosis**

- 231. It is an example of pneumoconiosis
- 232. Asbestos fibres collect in the alveoli at lung bases
- 233. Asbestos bodies are asbestos fibres coated with acid mucopolysaccharides and encrusted with copper

### **Regarding primary carcinoma of lung**

- 234. Some peripheral lung cancers arise in areas of fibrous scarring
- 235. Bronchiolo-alveolar cell adenocarcinomas are multifocal and bilateral diffuse tumours
- 236. Finger clubbing is common
- 237. Large cell undifferentiated carcinomas are usually peripheral in location

### **Morphology of chronic bronchitis includes**

- 238. Mucous gland atrophy
- 239. Squamous metaplasia
- 240. Respiratory bronchiolitis

### **Fibrocystic disease of breast**

- 241. Has no associated risk of developing carcinoma breast
- 242. Is associated with periodic breast discomfort
- 243. Presents clinically as palpable lumps mimicking carcinoma

### **The epithelial tumours of ovary**

- 244. Arise due to differentiation of mesothelium along different Mullerian epithelial lines
- 245. Are always benign
- 246. Of borderline category shows stromal invasion
- 247. Show high incidence among women of lower social classes

### **With reference to carcinoma of thyroid**

- 248. It is known to be associated with radiation exposure
- 249. Medullary carcinoma comprises about 60-70% of thyroid malignancies
- 250. Orphan Annie nuclei are seen in follicular carcinoma

### **Rapidly progressive glomerulonephritis**

- 251. Is also known as minimal change disease
- 252. Usually presents as acute nephritis in adults
- 253. Shows Kimmelstiel Wilson lesions
- 254. Has a good prognosis in adults

### **Wilms' tumour**

- 255. Arises from primitive neuroectodermal tissue
- 256. Usually occurs in children rather than in adults
- 257. Is a benign tumour

### **Characteristic features of diabetic nephropathy include**

- 258. Epithelial crescents in Bowman's space
- 259. Glomerular basement membrane thickening
- 260. Afferent and efferent arteriolar hyalinosis

