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MANIPAL UNIVERSITY

MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2013

SUBJECT: PATHOLOGY – I (ESSAY)

Saturday, February 09, 2013

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

1. What is karyotyping? Compare Down's syndrome and Klinefelter's syndrome on the basis of karyotype and clinical features. (1+4 = 5 marks)

2. Define chronic inflammation. Describe the causes of chronic inflammation. (1+4 = 5 marks)

3. A 3 year old female child is brought to the hospital in an unconscious state. On examination the physician in the emergency room makes a diagnosis of meningitis. He also further finds that the child is very pale and has hepatosplenomegaly and lymphadenopathy. The routine investigations show Haemoglobin- 4.6 gm/dL, Total WBC count – 86,000 cells/cu.mm, Platelet count – 35,000/cumm. Peripheral smear shows numerous blasts.
 - i) What is the diagnosis? State the prognosis giving reasons.
 - ii) Describe the morphological classification of this condition. (2+3 = 5 marks)

4. Describe the role of chemicals in human carcinogenesis with suitable examples. (5 marks)

5. Mr. Samuel Wright, a 55 year old school teacher had been experiencing altered bowel habits with blood in stools for the past two months along with fatigue and loss of weight. Colonoscopy showed an ulceroproliferative mass in the rectum.
 - i) Explain the aetiopathogenesis and microscopic features of the lesion.
 - ii) What are the possible factors which would affect the prognosis in this case? (3+2 = 5 marks)

6. Explain the pathophysiological basis of the clinical features of chronic liver disease. (5 marks)

7. Compare the salient features of osteosarcoma and osteoclastoma in a tabular format. (5 marks)

8. Define embolism. Describe the clinicopathological features of pulmonary embolism. (1+4 = 5 marks)

9. Describe the pathophysiology of the development of a myocardial infarct. In a tabular format, mention the time dependent morphological features of myocardial infarct. (2½+2½ = 5 marks)

10. A 35 year old housemaid was admitted to the hospital with chronic cough, chest pain, breathlessness and episodes of hemoptysis of two months duration. Her symptoms had not responded to routine antibiotics. A positive Mantoux test and other investigations confirmed the diagnosis.

- i) Describe the expected morphological changes in the lung in this patient.
- ii) Enumerate the complications that can occur in this condition.

(3+2 = 5 marks)

11. Explain with the help of suitable diagrams the types of cervical intra-epithelial neoplasia (CIN). What are the steps in the progression of CIN to invasive carcinoma?

(3+2 = 5 marks)

12. In a tabular format, compare the features of autosomal dominant and autosomal recessive polycystic kidney disease.

(5 marks)



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MANIPAL UNIVERSITY**MBBS PHASE I STAGE II DEGREE EXAMINATION – FEBRUARY 2013****SUBJECT: PATHOLOGY – II (MCQs)**

Saturday, February 09, 2013

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 Correct response	1 mark is awarded
For every Wrong response	0.5 mark is deducted
For every Don't Know 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.

Fracture healing is delayed when the fractured ends are

- 101. Vascular
- 102. Infected
- 103. Immobile

Apoptosis is characterized by

- 104. Energy dependence
- 105. Inhibition of caspases
- 106. Inflammatory cells around dead cells
- 107. Involvement of groups of cells

The following terminologies are correctly matched with their meaning

- 108. Organisation: repair of specialised tissue with formation of scar
- 109. Idiopathic: caused by medical intervention
- 110. Relapse: period of good health prior to reappearance of disease manifestation

Regarding formation of cellular exudate in acute inflammation

- 111. Margination of neutrophils occurs due to increased plasma viscosity
- 112. Endotoxins cause increase in leukocyte surface adhesion molecules
- 113. Diapedesis is passive escape of red blood cells from the vessels

Causes of immediate sustained increase in vascular permeability include

- 114. Bradykinin
- 115. Trauma
- 116. Bacterial toxins
- 117. X-rays

Regarding the role of complement components as chemical mediators in acute inflammation

- 118. C5a has chemotactic properties
- 119. C3a helps in opsonisation
- 120. C3b causes increase in vascular permeability

Hereditary spherocytosis is

- 121. An autosomal dominant disorder
- 122. Due to defect in structural protein called spectrin
- 123. Routinely treated by splenectomy
- 124. Diagnosed by decrease in osmotic fragility

Multiple myeloma

- 125. Is commonly seen in children
- 126. May lead to pathological fractures
- 127. Involves kidneys to cause renal failure

Regarding von Willebrand's disease

- 128. Type I causes severe bleeding
- 129. Type III is extremely common
- 130. Bleeding time is normal

Regarding malignant tumours

- 131. The direction of growth is often exophytic
- 132. They often show central necrosis
- 133. They are associated with paraneoplastic syndromes

Regarding tumour markers

- 134. Raised vanillyl mandelic acid (VMA) is associated with pheochromocytoma
- 135. Peptide hormones are increased in neuroendocrine tumours
- 136. Carcinoembryonic antigen (CEA) is increased in myeloma

With reference to viral oncogenesis

- 137. Cervical carcinoma is associated with human papilloma virus (HPV)
- 138. Immunosuppression does not favour viral oncogenesis
- 139. Epstein-Barr virus (EBV) requires a co-factor such as malaria in the pathogenesis of Burkitt's lymphoma
- 140. Oncogenic RNA viral genome is directly incorporated into the host cell DNA

Regarding appendicitis

- 141. It is a common cause of acute abdomen
- 142. Pseudomyxoma peritonei is a rare complication
- 143. Obstruction of the lumen by food residue is an aetiology

Barrett's oesophagus

- 144. Is due to long-term consequences of reflux
- 145. Is characterised by metaplasia from squamous to columnar epithelium
- 146. Is associated with increased risk of oesophageal adenocarcinoma

Regarding peptic ulcer

- 147. It usually affects second part of duodenum
- 148. Helicobacter gastritis is an aetiological factor
- 149. Chronic ulcers develop as a result of extreme hyperacidity
- 150. They have a propensity to become malignant

Hepatitis B virus infection

- 151. Spreads venereally
- 152. Does not have a carrier state
- 153. Has a short incubation period
- 154. Causes liver damage by antiviral immune reaction

Regarding haemochromatosis

- 155. It usually progresses to cirrhosis
- 156. It occurs due to HFE gene defects
- 157. Secondary haemochromatosis may be due to parenteral iron loading

Regarding cholelithiasis

- 158. Diabetes mellitus is a risk factor
- 159. Cholesterol stones can develop due to a deficit of bile salts
- 160. Obstructive jaundice is a complication

Rheumatoid arthritis

- 201. Affects the small joints of the hand and feet
- 202. Is associated with calcium pyrophosphate deposition in the joints
- 203. Causes synovial hyperplasia

Regarding subarachnoid haemorrhage

- 204. It results due to cerebral embolism
- 205. It produces sudden excruciating headache
- 206. It is associated with aneurysms in the circle of Willis
- 207. Atherosclerosis is a predisposing factor

Regarding lepromatous leprosy

- 208. It is associated with pauci bacillary lesions
- 209. A Grenz zone is seen in the dermo-epidermal junction microscopically
- 210. It may result in leonine facies

In CNS infection with HIV

- 211. The virus crosses the blood brain barrier in a lymphocyte
- 212. Cerebral lymphoma is a complication
- 213. Microglial nodules are seen on microscopy

Regarding Duchenne muscular dystrophy

- 214. It is an X-linked disorder
- 215. The onset is in adult life
- 216. A characteristic biopsy finding is variation in the diameter of muscle fibres

With reference to metastatic bone tumours

- 217. They are a cause of pathological fractures
- 218. Those from the prostate, are most often osteosclerotic
- 219. They are less common than primary bone tumours
- 220. They occur as a result of hematogenous spread of tumours

Regarding aneurysms

- 221. The Charcot-Bouchard aneurysms are more common in the coronary artery
- 222. Syphilitic aneurysms can lead to aortic incompetence
- 223. 'Double-barreled' aorta is associated with dissecting aneurysms
- 224. The most common complication of 'berry' aneurysm is subarachnoid haemorrhage

Vegetations in infective endocarditis

- 225. Can be seen on atheromatous plaques in the aorta
- 226. Can involve a patent ductus arteriosus
- 227. Occur in areas of blood flow across a low pressure gradient

Regarding acute pericarditis

- 228. There is a fibrous thickening of the pericardial layers
- 229. A pericardial friction rub is a characteristic feature of acute fibrinous pericarditis
- 230. Common viral causes include Coxsackie virus A and B

Chronic bronchitis

- 231. Is associated with mucous gland hypertrophy
- 232. Is cough with sputum for 2 months in 3 consecutive years
- 233. Leads to cor pulmonale

Complications of bronchiectasis include

- 234. Cor pulmonale
- 235. Amyloidosis
- 236. Septicaemia

Adenocarcinoma of lung

- 237. Is seen usually as a peripheral lesion
- 238. Always occurs as a single discrete nodule
- 239. Arises from type 2 pneumocyte
- 240. Presents with haematemesis

Regarding tumours of breast

- 241. Lobular carcinoma is often bilateral
- 242. Cystosarcoma phyllodes is also called as breast mouse
- 243. Carcinoma breast is responsive to hormonal therapy if the tumour is oestrogen and progesterone receptor positive

In testicular tumours

- 244. Maldescent of testis is a predisposing factor
- 245. Alpha-fetoprotein is a marker for teratomas
- 246. Seminoma is the commonest tumour of young adult males

Papillary carcinoma of thyroid

- 247. Arises from the thyroid follicular cells
- 248. Shows amyloid deposits in the stroma
- 249. Spreads commonly through the bloodstream
- 250. Histologically shows 'Orphan Annie' nuclei

Minimal change disease of glomerulus

- 251. Is an important cause of nephritic syndrome in children
- 252. On light microscopy, show capillary wall thickening
- 253. Responds to steroid therapy

Causes of toxic type of acute tubular necrosis include

- 254. Burns
- 255. Pesticides
- 256. Infections

In chronic pyelonephritis

- 257. Multiple abscesses are seen throughout the cortex and medulla of the kidney
- 258. There is thyroidisation of the tubules
- 259. Granular casts are seen in the urine
- 260. The refluxing papillae are located in the poles of the kidney

