

## MANIPAL UNIVERSITY

### MBBS PHASE I STAGE I DEGREE EXAMINATION – FEBRUARY 2014

#### SUBJECT: ANATOMY – I (ESSAY)

Saturday, February 08, 2014

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

1. With the help of a neat labelled diagram, describe the microanatomy of a medium sized artery. Give two examples for medium sized artery. (4+1 = 5 marks)
  
2. Mention the attachments of the following structures.
  - 2A. Anterior cruciate ligament
  - 2B. Glenohumeral ligament
  - 2C. Iliofemoral ligament
  - 2D. Sphenomandibular ligament
  - 2E. Inguinal ligament(1×5 = 5 marks)
  
3. Write the attachments, nerve supply and actions of sternocleidomastoid muscle. (2+1+2 = 5 marks)
  
4. Mention the formation, function and fate of corpus luteum. (2+1+2 = 5 marks)
  
5. Mention the fate of the following embryonic structures:
  - 5A. Ductus arteriosus
  - 5B. Right horn of sinus venosus
  - 5C. Truncus arteriosus
  - 5D. Septum primum(1×4 = 4 marks)
  
6. Explain the origin, termination and relations of the arch of aorta. (½+½+3 = 4 marks)
  
7. Describe the features of the interior of larynx. (4 marks)
  
8. A 45-year-old man was having a drink in a bar on a Saturday night. He had to go to the washroom and he walked across a dart board. Suddenly a dart hit him on the face just in front of his right ear lobule. The wound healed after a few days but he noticed that every time when he had his meals, he was sweating profusely over the skin covering the right parotid gland.
  - 8A. What is the name of above clinical condition?
  - 8B. Explain the reason for sweating in the parotid region.
  - 8C. Explain the secretomotor pathway of the parotid gland.(1+1+2 = 4 marks)
  
9. Describe the blood supply and nerve supply of the anal canal. Name any one clinical condition related to the anal canal. (1+2+1= 4 marks)

10. A 16 year old boy, taking part in a bicycle race stood up on the pedals to increase the speed on approaching a steep hill and his right foot slipped off the pedal. He fell violently, his perineum hitting the bar of the bicycle. Several hours later he was admitted to the hospital because he was unable to micturate. On examination, he was found to have extensive swelling of the penis and scrotum. A diagnosis of the ruptured urethra was made.
- 10A. Name the part of the urethra that was ruptured.
- 10B. Describe the boundaries of the space into which the extravasation of urine had occurred.  
(1+3 = 4 marks)
11. Describe the functional areas on the superolateral surface of the cerebrum with a labelled diagram.  
(4 marks)
12. Mention the parts of corpus striatum. Add a note on its connections and blood supply.  
(1+3 = 4 marks)
13. Mention the relations and the arterial supply of the head of the pancreas.  
(3+1 = 4 marks)
14. Give the origin, course, termination, development and blood supply of vas deferens.  
( $\frac{1}{2}+1+\frac{1}{2}+1+1 = 4$  marks)



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## MANIPAL UNIVERSITY

MBBS PHASE I STAGE I DEGREE EXAMINATION – FEBRUARY 2014

SUBJECT: ANATOMY – II (MCQs)

Saturday, February 08, 2014

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.

### **About the nervous tissue**

101. Multipolar neurons have one axon and more than one dendrites
102. Neuroglia are the supporting cells of central nervous system
103. Pseudo-unipolar neurons are found in the sympathetic ganglia
104. Nerve fibres in a nerve are surrounded by connective tissue
105. Schwann cells and oligodendrocytes are concerned with myelination

### **About the ankle joint**

106. It is a biaxial synovial joint
107. Deltoid ligament strengthens its lateral aspect
108. Its inferior articular surface is formed by the talus and lateral malleolus of fibula
109. Its articular surfaces are covered by hyaline cartilage
110. It is supplied by the branches of tibial nerve

### **About the ribs**

111. Superior surface of the first rib is related to subclavian vessels
112. Second rib articulates with sternum at the level of sternal angle
113. 5<sup>th</sup> rib is an atypical rib
114. Fourth rib articulates with 4<sup>th</sup> and 5<sup>th</sup> thoracic vertebrae
115. Twelfth rib gives attachment to quadratus lumborum muscle

### **About gastrulation**

116. It occurs in the fifth week of intrauterine life
117. It begins with the formation of primitive streak
118. Through this process, the cells of epiblast form all three germ layers
119. During this process, the prechordal plate induces the formation of hindbrain
120. During this stage, oropharyngeal membrane appears at the caudal end of embryonic disc

### **In the posterior compartment of the forearm**

121. Superficial extensors are supplied by the fibres of radial nerve
122. The extensor digitorum splits into four tendons for the medial four digits
123. Anterior interosseous nerve supplies the deep extensors
124. Supinator gets inserted into shaft of the ulna
125. The deep branch of radial nerve is accompanied by the radial artery

### **About muscles of arm**

126. Brachialis is supplied by median and musculocutaneous nerves
127. Coracobrachialis and short head of biceps originate from the coracoid process
128. Long head of biceps is intracapsular in origin
129. Triceps is the major extensor of shoulder joint
130. Coracobrachialis is a flexor of elbow joint

### **Regarding hamstrings**

131. All of them act on the hip joint
132. The semitendinosus is inserted near to the insertion of sartorius
133. All of them are extensors of knee joint
134. Tibial collateral ligament of knee is the degenerated distal part of semimembranosus
135. All of them are supplied by tibial component of sciatic nerve

### **About the heart**

136. Its diaphragmatic surface is formed mainly by the right and left ventricles
137. Its base is formed mainly by the left ventricle
138. The right atrium has a smooth part, which is separated from the rough part by the crista terminalis
139. Superior vena caval opening is guarded by a rudimentary valve
140. Annulus fossa ovalis develops from the lower edge of the septum secundum

### **Regarding the blood supply and nerve supply of the heart**

141. Right coronary artery arises from the right posterior aortic sinus
142. Its preganglionic sympathetic fibres arise from the cervical spinal segments
143. Coronary sinus opens into the right atrium
144. Great cardiac vein runs in the posterior interventricular groove
145. Circumflex artery runs in the coronary sulcus

### **Regarding the blood vessels in the cranial cavity**

146. Internal carotid artery passes through the cavernous sinus
147. Middle meningeal artery is related to the pterion
148. Occlusion of the anterior cerebral artery results in motor aphasia
149. Basilar artery is the continuation of the internal carotid artery

150. Vertebral artery gives a branch called posterior inferior cerebellar artery

### Regarding the thoracic wall

151. Neurovascular bundle of the intercostal space lies between transversus thoracis and internal intercostal muscles
152. The preferable space for drainage of pleural fluid is 4<sup>th</sup> intercostal space
153. The 2<sup>nd</sup> to 6<sup>th</sup> intercostal nerves are typical intercostal nerves
154. Anterior intercostal arteries of all the intercostal spaces are branches of internal thoracic artery
155. Internal intercostal muscle extends from tubercle of the rib to the sternum

### Regarding the pleura

156. Costal pleura is related to the intercostal spaces
157. Lungs are situated within the pleural cavity
158. Mediastinal pleura of left side is related to left common carotid artery
159. Costomediastinal recess is the most dependent part of the pleural cavity in erect posture
160. Cervical pleura is attached to transverse process of C7 vertebra

### About the tongue

201. All the muscles of the tongue are supplied by the pharyngeal plexus of nerves
202. General sensations from its posterior 1/3 pass through the glossopharyngeal nerve
203. Its anterior 2/3 contains lingual tonsil
204. Its muscles develop from first pharyngeal arch
205. Its circumvallate papillae contain taste buds

### About the parts of small intestine

206. Duodenum is completely retroperitoneal
207. Ileum has Peyer's patches in its wall
208. Jejunum contains crypts of Lieberkuhn
209. Second part of duodenum develops from foregut and midgut
210. Wall of the jejunum is thinner than that of the ileum

### Regarding the peritoneal folds

211. Falciform ligament contains ligamentum teres
212. Broad ligament is attached to the urinary bladder

213. Lesser omentum develops from the ventral mesogastrium
214. Transverse mesocolon contains inferior mesenteric artery
215. Phrenico-colic ligament is attached to the right colic flexure

### The bile duct

216. Is formed by the union of common hepatic duct and cystic duct
217. Passes through the greater omentum
218. Forms the posterior boundary of the epiploic foramen
219. Is closely related to the head of the pancreas
220. Develops from 'pars cystica'

### About the kidneys

221. Posterior surface of left kidney is related to the left quadratus lumborum muscle
222. 'Polycystic kidney' is a condition resulting due to the non-union of its collecting and secreting parts
223. The right kidney is at a higher level than the left kidney
224. Anterior surface of the right kidney is related to the second part of duodenum
225. Their collecting parts develop from the metanephros

### Regarding the spinal cord

226. Its lower end lies at the level of S2 vertebra in adults
227. It is as long as the vertebral canal at the time of birth
228. Its pia mater terminates at the level of L1 vertebra
229. Its epidural space has internal vertebral venous plexus
230. It has 31 segments

### About the hypoglossal nerve

231. It leaves the skull through the jugular foramen
232. It runs between internal jugular vein and internal carotid artery
233. It supplies sternohyoid and sternothyroid muscles
234. It is a content of digastric triangle
235. Its lesion results in loss of gag reflex

### About the posterior limb of internal capsule

236. It lies lateral to the thalamus
237. It contains the cortico-rubral fibres

- 238. It is supplied by posterior choroidal artery
- 239. It transmits the posterior thalamic radiation
- 240. It lies medial to the head of caudate nucleus

#### **About the connections of the cerebellum**

- 241. Cerebello-rubral fibres pass through the middle cerebellar peduncle
- 242. Fibres from the dentate nucleus pass through the superior cerebellar peduncle
- 243. Dentato-thalamic fibres pass through the inferior cerebellar peduncle
- 244. Archicerebellum is connected to the vestibular nuclei
- 245. Neocerebellum is connected to the spinal cord through spinocerebellar fibres

#### **About the thyroid and parathyroid glands**

- 246. Lobe of thyroid gland extends superiorly up to the oblique line of thyroid cartilage
- 247. Superior parathyroids develop from third pharyngeal pouch
- 248. In partial thyroidectomy, superior border of the isthmus should be left behind to save parathyroid glands
- 249. Thyroid gland moves up and down during deglutition

- 250. Thyroid gland develops from the first pharyngeal pouch

#### **Derivatives of the mesonephric duct include**

- 251. Trigone of the bladder
- 252. Epididymis
- 253. Uterus
- 254. Fallopian tube
- 255. Ejaculatory duct

#### **About the vagina**

- 256. Its posterior fornix is related to the rectouterine pouch
- 257. Its anterior wall is related to the urinary bladder
- 258. Its anterior fornix is deepest among its fornices
- 259. It is supplied by the branches of the external iliac artery
- 260. It is lined by ciliated columnar epithelium

