

MANIPAL UNIVERSITY

MBBS PHASE I STAGE I DEGREE EXAMINATION – FEBRUARY 2012

SUBJECT: ANATOMY – I (ESSAY)

Saturday, February 11, 2012

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. Classify the synovial joints based on their articular surfaces. Give one example for each variety. (5 marks)

2. Describe the parts and features of the mandible. Add a note on its development. (4+1 = 5 marks)

3. A medical student was playing football with his friends. After kicking the ball hard with the extended knee, he felt severe pain in the back of thigh and was unable to move his legs. On examination, the physician observed that his major muscles of the back of the thigh were torn.
 - 3A. What are those muscles called?
 - 3B. Explain the origin, insertion, nerve supply and actions of these muscles. (1+4 = 5 marks)

4. Write a note on the formation and fate of somites. (5 marks)

5. A 17-year-old girl visited her dermatologist because of severe acne of the face. On examination, it was found that a small abscess was present on the side of the nose. The patient was given antibiotics and was warned not to press the abscess as it can lead to thrombosis of a venous sinus.
 - 5A. Name the sinus which can get affected in this case.
 - 5B. Mention the relations and tributaries of the above mentioned sinus. (1+3 = 4 marks)

6. Mention the origin, course, termination and branches of the femoral artery. (1+1+1+1 = 4 marks)

7. With the help of a neat labeled diagram, explain the microscopic anatomy of trachea. (4 marks)

8. A 4 year old boy had difficulty in speech. On examination of his tongue, the doctor noticed that the frenulum of the tongue was too short. The case was treated surgically.

8A. What is this clinical condition known as?

8B. Describe the features of the dorsum of the tongue.

(1+3 = 4 marks)

9. Explain the relations of the anal canal. Mention its nerve supply and lymphatic drainage.

(2+1+1 = 4 marks)

10. Write a note on the bile duct.

(4 marks)

11. A 20-year-old girl, riding pillion on a motorcycle, was involved in an accident. She was thrown 15 feet away and landed on her left shoulder and the left side of her head. After three weeks of hospitalization, it was noticed that she kept her left arm internally rotated by her side with the elbow extended and forearm pronated. There was anesthesia along the lateral side of her upper arm.

11A. Name the clinical condition presented by the above patient.

11B. Explain the reason for the above symptoms.

11C. Which spinal nerve fibres are involved in this case?

11D. Name any four affected muscles supplied by these fibres.

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

12. Describe extracranial course and distribution of glossopharyngeal nerve.

(2+2 = 4 marks)

13. Describe the relations, arterial supply and development of the pituitary gland.

(2+1+1 = 4 marks)

14. Describe the origin, course, termination, development and blood supply of vas deferens.

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



Reg. No.

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MANIPAL UNIVERSITY**MBBS PHASE I STAGE I DEGREE EXAMINATION – FEBRUARY 2012****SUBJECT: ANATOMY – II (MCQs)**

Saturday, February 11, 2012

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.

In the human body

101. Simple squamous epithelium is seen lining the blood vessels
102. Venules begin from the capillary bed
103. Shaft of a long bone ossifies from the secondary ossification centre
104. Long bones are supplied by diaphysial, epiphysial and hypophysial arteries
105. Transitional epithelium is a modified simple epithelium

About the joints of the upper limb

106. Shoulder joint is strengthened anteriorly by glenohumeral ligaments
107. Articular surfaces of radiocarpal joint are covered by hyaline cartilages
108. Annular ligament is a ligament of superior radioulnar joint
109. Oblique band of medial collateral ligament of elbow joint is attached to the olecranon and coronoid processes of the ulna
110. Infraspinatus muscle prevents downward dislocation of the head of the humerus

About the knee joint

111. It is a compound synovial joint
112. Injuries of medial meniscus are more common compared to that of the lateral meniscus
113. Anterior part of the upper end of the tibia articulates with the patella
114. Fibular collateral ligament is attached to the convex margin of the lateral meniscus
115. Positive drawer's sign indicates the damage to the cruciate ligaments

About the laryngeal muscles

116. Cricothyroid is supplied by the recurrent laryngeal nerve
117. Thyroarytenoid acts as a relaxer of the vocal cord
118. Lateral cricoarytenoid abducts the vocal cord
119. Damage to the external laryngeal nerve causes weakness of phonation
120. Posterior cricoarytenoid inserts into the muscular process of arytenoid cartilage

Regarding the muscles of arm

121. Biceps arises from the infraglenoid tubercle
122. Brachialis is supplied by the musculocutaneous and ulnar nerves
123. Coracobrachialis flexes the arm at shoulder joint

124. Triceps is an extensor of the elbow
125. Coracobrachialis is pierced by the musculocutaneous nerve

About the gluteal muscles

126. Gluteus maximus is the chief extensor of the thigh at the hip joint
127. Gluteus medius is a powerful abductor of the thigh
128. Tensor fasciae latae is a lateral rotator of the thigh
129. Gemellus inferior is supplied by the nerve to quadratus femoris
130. Obturator internus is inserted to the lesser trochanter of the femur

Placenta

131. Has a maternal part formed by chorion frondosum
132. Has a foetal surface which is rough due to the presence of cotyledons
133. Secretes progesterone
134. Has a peripheral margin which is continuous with decidua
135. Has chorionic villi which contain maternal blood

Regarding the internal carotid artery

136. It begins at the level of cricoid cartilage
137. Its cervical part gives four branches
138. It enters the cranial cavity through foramen ovale
139. Its pterygoid branch anastomoses with lesser palatine artery
140. Its petrous, cavernous and cerebral parts form carotid siphon of angiograms

Regarding the great saphenous vein

141. It begins at the lateral end of dorsal venous arch of foot
142. It accompanies the saphenous nerve in the superficial fascia
143. It joins femoral vein after passing through saphenous opening in superficial fascia
144. Perforators connect great saphenous vein with superficial veins
145. Elevated intra-abdominal pressure can lead to varicosity of this vein

Regarding the radial artery

146. It usually begins in the cubital fossa medial to the tendon of biceps brachii
147. Its pulsations are felt against lower end of the radius

148. It lies medial to brachioradialis along its entire extent
149. It leaves the dorsal surface of wrist by passing between two heads of adductor pollicis muscle
150. It anastomoses with superficial branch of ulnar artery to complete deep palmar arch

Regarding the paranasal air sinuses

151. Frontal air sinus lies within the labyrinth of ethmoid bone
152. Sphenoidal air sinuses of both sides communicate with each other
153. Lymph from maxillary air sinus drains into submandibular lymph nodes
154. Ethmoidal air sinuses are well developed at birth
155. Maxillary sinusitis can occur due to an apical dental abscess

Regarding the right lung

156. The visceral pleura covering it is sensitive to pain and temperature
157. Inhaled foreign particles mostly enter the right lung
158. The lymph from the substance of the lung reaches the hilum by the superficial and deep lymphatic plexuses
159. The pulmonary ligament permits the vessels of the lung root to expand
160. The bronchial veins drain into the azygos and hemiazygos veins

Regarding the oesophagus

201. It begins at the level of 5th cervical vertebra
202. It pierces the diaphragm at the level of 10th thoracic vertebra
203. Its submucosa has serous glands
204. Its wall has smooth muscle fibres
205. It passes through the posterior mediastinum

Lesser sac of peritoneum

206. Is situated behind the lesser omentum
207. Extends down till the lower end of the greater omentum in the foetal life
208. Communicates with greater sac through epiploic foramen
209. Contains the left kidney
210. Is a site of internal hernia

About the duodenum

211. Its first part forms the roof of the epiploic foramen
212. Its second part is retroperitoneal

213. Its third part is crossed by the portal vein
214. Its fourth part continues as the jejunum
215. It develops from foregut and midgut

About the spleen

216. It is situated in the left hypochondrium
217. Its visceral surface is related to the left kidney
218. Its superior border gives attachment to gastrosplenic ligament
219. Its hilum is related to the tail of the pancreas
220. Its lymphatic follicles are known as the red pulp

Regarding the parts of urinary system

221. Female urethra opens into vestibule of the vagina
222. Prostatic part of male urethra has bulbar fossa
223. Medulla of the kidney presents the renal pyramids
224. Ureter develops from mesoderm
225. Uvula vesicae is an elevation in the urinary bladder of a female

About the blood supply of the brain

226. Thrombosis of the anterior spinal artery leads to Wallenberg syndrome
227. Superior cerebellar artery can compress upon the trigeminal nerve leading to trigeminal neuralgia
228. Thrombosis of the middle cerebral artery leads to aphasia
229. Paracentral lobule is drained by the superior cerebral veins
230. Basal veins drain into great cerebral vein

About the internal capsule

231. Its anterior limb is supplied by anterior choroidal artery
232. Lesions of its retrolentiform part lead to bitemporal hemianopia
233. Superior thalamic radiation is present in its posterior limb
234. Its sublenticular part is supplied by recurrent artery of Heubner
235. Corticonuclear fibres pass through its genu

About the nerves of the lower limb

236. Posterior division of the obturator nerve lies in front of the adductor brevis muscle
237. Nerve to popliteus supplies the tibio-fibular joints

- 238. Sciatic nerve lies lateral to the pudendal nerve in the gluteal region
- 239. Saphenous nerve runs in the adductor canal
- 240. Lesion of common peroneal nerve leads to foot drop

About the eyeball

- 241. Its corneal surface is turned downwards and laterally when there is lesion of trochlear nerve
- 242. Its constrictor pupillae muscle is supplied by the sympathetic nerves
- 243. Posterior boundary of its anterior chamber is formed by the lens
- 244. Its choroid coat develops from outer layer of optic cup
- 245. Its lens is developed from mesoderm within the optic cup

About the thyroid gland

- 246. Lateral surface of its lobe is covered by the thyrohyoid muscle
- 247. Its parafollicular cells develop from thyroglossal duct
- 248. The superior thyroid artery should be ligated away from the gland during thyroid surgery
- 249. Medial surface of its lobe is related to the inferior constrictor muscle of the pharynx

- 250. It moves during deglutition due to its attachment to the larynx through the ligament of Berry

About the seminal vesicle

- 251. It acts as the reservoir of sperms
- 252. It develops from the mesonephric duct
- 253. Vas deferens descends lateral to it
- 254. It is lined by transitional epithelium
- 255. Rectovesical pouch of peritoneum completely separates it from the rectum

About the mammary gland

- 256. Its parenchyma develops from the endoderm
- 257. It is anchored to the overlying skin and underlying pectoral fascia by ligaments of Cooper
- 258. Lateral branches of the 2nd, 3rd and 4th posterior intercostal arteries supply it
- 259. Most of its lymphatics directly drain into the apical group of axillary lymph nodes
- 260. Cancer of the lower and medial part of the breast can cause metastases in the pelvis

