BATCH 26

| Reg. No. | | | | | | | | | | | |
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# MANIPAL UNIVERSITY

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

### SUBJECT: ANATOMY – 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. Describe the different types of cartilages giving one example for each.

(5 marks)

2. List the muscles of anterior compartment of leg. Mention the attachments and nerve supply of the muscle in this compartment which inverts the foot.

(5 marks)

3. A football player, on receiving a blow on the lateral side of the right knee, felt a sharp pain on the medial aspect and was not able to extend the leg. His right knee was swollen especially above the patella. Drawer signs were negative. Radiological examination did not show any fracture.
   a) Which intra-articular structure is torn in this patient?
   b) Give the shape and attachments of this structure
   c) Write the origin and insertion of the muscle that originates inside the capsule of knee joint

(1+2+2 = 5 marks)

4. Describe the formation, functions and fate of corpus luteum.

(2+1+2 = 5 marks)

5. Describe the origin, course and termination of internal jugular vein. Name its tributaries.

(½+1+½+2 = 4 marks)

6. Describe the gross anatomy of right ventricle.

(4 marks)

7. A 15 year old boy swallowed a fish bone which was stuck in his throat. He was rushed to the hospital and the bone was removed. But following this, it was noticed that he had loss of sensation of the mucosa of supraglottic part of the larynx.
   a) Name the anatomical site in the throat in which fish bone was lodged.
   b) What are the boundaries of this region?
   c) What is the reason for loss of sensation in the larynx?

(1+2+1 = 4 marks)

8. Write a note on various positions, blood supply and applied anatomy of vermiform appendix

(2+1+1 = 4 marks)

9. Write a note on the bile duct.

(4 marks)

10. Describe the histology of the kidney.

(4 marks)

11. A boy while returning home from his school at 1 pm in the hot sun found an iron rod on the road. He picked up the rod, but it was too hot and dropped it. Name the tract in the spinal cord carrying this sensation. Trace this sensory pathway from the receptor to its final destination.

(1+3 = 4 marks)

12. Draw a neat labeled diagram of the transverse section of midbrain at the level of inferior colliculus.

(4 marks)

13. A 43 years old female was presented to the emergency room complaining of shortness of breath. She was diagnosed in a peripheral hospital as having bronchial asthma but her problem did not improve with medication. On examination, there was a small diffused swelling in the anterior aspect of the neck which moved when swallowing. On percussion, there was dullness over the sternum.
   a) What structure was enlarged in the patient? Why did it move during swallowing?
   b) Write a note on its arterial supply and development.

(1+1+1+1=4 marks)

14. Describe the relations, blood supply and lymphatic drainage of the uterus.

(2+1+1 = 4 marks)

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# MANIPAL UNIVERSITY

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

### SUBJECT: ANATOMY – 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 **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 sole**

101. Flexor digitorum accessorius is supplied by medial plantar nerve
102. Tendon of tibialis posterior is in its 4th layer
103. Long plantar ligament extends from the calcaneum to the metatarsal bones
104. First lumbrical abducts the second toe
105. Plantar arch lies deep to adductor hallucis muscle

**About the skin**

106. Stratum basale has melanocytes
107. Epidermis is made up of stratified squamous non-keratinised epithelium
108. Dermis of the thin skin contains sebaceous glands
109. Dermis of thick skin contains arrector pili muscle
110. Sweat glands are absent in the skin of glans penis

**Regarding the lumbricals and interossei of hand, the**

111. First dorsal interosseous is bipennate
112. Palmar interossei are supplied by the deep branch of ulnar nerve
113. Lumbricals flex the proximal interphalangeal joints
114. Dorsal interossei adduct the digits
115. Lumbricals take their origin from the tendons of flexor digitorum superficialis

**Regarding the hip bone**

116. Highest point of iliac crest is situated at the level of L4 vertebra
117. Preauricular sulcus is present along the lower border of greater sciatic notch
118. Anterior superior iliac spine gives attachment to the lateral end of the inguinal ligament
119. Dorsal segment of the iliac crest gives origin to the gluteus maximus
120. Pubic tubercle is the medial end of the pubic crest

**Regarding the fibula**

121. Upper end is its growing end
122. Its lower end is crossed in front by short saphenous vein
123. Its posterior surface gives origin to flexor digitorum longus muscle
124. Lateral aspect of its neck is related to deep peroneal nerve
125. Lateral surface of its shaft gives origin to the peroneus longus muscle

**Pectoralis major muscle**

126. Is supplied by the medial and lateral pectoral nerves
127. Adducts the arm and rotates it medially
128. Is inserted into the medial lip of the bicipital groove of the humerus
129. Takes origin from the lower six costal cartilages
130. Forms the anterior axillary fold

**Derivatives of neural crest include**

131. Neurons of dorsal root ganglion
132. Dermis of skin
133. Medulla of suprarenal gland
134. Epithelium of ear
135. Schwann cells

**The branches from the anterior division of internal iliac artery include**

136. Obturator
137. Superior gluteal
138. Superior vesical
139. Ovarian
140. Superior rectal

**Regarding the blood supply of the heart**

141. The left coronary artery arises from the left posterior sinus of pulmonary trunk
142. Coronary sinus begins in the right part of atrioventricular groove
143. Anterior cardiac vein is a tributary of coronary sinus
144. Anterior interventricular artery is a branch of left coronary artery
145. S A node is mainly supplied by the right coronary artery

**External carotid artery**

146. Begins at the level of cricoid cartilage
147. Gives five branches in the carotid triangle
148. Gives superior thyroid branch which is closely related to the internal laryngeal nerve
149. Enters the parotid gland through its anteromedial surface
150. Is developed from the fourth aortic arch

**About the left lung**

151. Its upper lobe has 5 bronchopulmonary segments
152. Its lower lobe has lingula
153. Its mediastinal surface is related to arch of the aorta
154. It is supplied with oxygenated blood by left pulmonary artery
155. Its apex extends above the posterior end of the first rib

**About the larynx**

156. All of its muscles are supplied by the recurrent laryngeal nerve
157. Vocal fold is adducted by posterior cricoarytenoid muscle
158. Arytenoid cartilage articulates with the lamina of the cricoid cartilage
159. Mucous membrane covering the vocal cord is lined by stratified squamous epithelium
160. It continues as trachea at the level of fifth cervical vertebra

**About the rectum**

201. Its upper third is completely covered by peritoneum
202. It begins at the level of third sacral vertebra
203. Its posterior relations include sympathetic chains
204. Its lower part is related to the rectouterine pouch in females
205. Prostate can be palpated through the rectal ampulla in the male

**About the development of the gastrointestinal system**

206. Submandibular and sublingual salivary glands develop from the ectoderm
207. Duodenum develops from foregut and midgut
208. Descending colon develops from midgut and hindgut
209. Meckel's diverticulum is a derivative of vitellointestinal duct
210. Midgut rotates in clockwise direction during its development

**Regarding the pancreas**

211. Cancer of its head can lead to obstructive jaundice due to the compression of bile duct
212. Portal vein is related to its neck
213. Its tail is closely related to the hilum of the spleen
214. Splenic vein runs along its upper border
215. Body and tail of pancreas are derived from the ventral pancreatic bud

**About the urinary bladder**

216. Its apex lies on the base of the prostate
217. Its base is related to the seminal vesicles in males.
218. Its trigone is developed from the mesonephric ducts
219. Uvula vesicae lies in front of its internal urethral orifice
220. Its inferolateral surface is covered by peritoneum

**The palatine tonsil**

221. Lies in the lateral wall of nasopharynx
222. Has lymph sinuses in its cortex
223. Is developed from the second pharyngeal arch
224. Is supplied by glossopharyngeal nerve
225. Is drained by lymph vessels that end in jugulo digastric lymph node

**The ulnar nerve**

226. Arises from the lateral cord of the brachial plexus
227. Runs on the medial side of axillary and brachial arteries
228. Passes through the carpal tunnel
229. Supplies all the lumbrical muscles in the hand
230. Injury in the forearm leads to ulnar claw hand

**About the oculomotor nerve**

231. Its nucleus is present at the level of inferior colliculus of midbrain
232. It passes between the posterior cerebral and superior cerebellar arteries
233. It runs in the lateral wall of cavernous sinus
234. It supplies all the extraocular muscles
235. Its lesion leads to lateral strabismus

**About the internal ear**

236. Semicircular canals open into the vestibule
237. It communicates with the middle ear cavity through the fenestra vestibuli
238. Its organ of corti is present on the basilar membrane
239. Its scala media and scala tympani are separated by scala vestibuli
240. Its utricle is present in the vestibule

**In the eyeball**

241. Its posterior chamber lies behind the lens
242. Contraction of its ciliaris muscle makes lens thinner
243. Obstruction of its sinus venosus sclerae lead to glaucoma
244. Its fovea centralis has only the rods
245. Its lens is developed from the mesoderm

**Regarding the suprarenal gland**

246. Anterior surface of right suprarenal gland is related to splenic artery.
247. Its cortex is ectodermal in origin.
248. It receives its blood supply from inferior phrenic and renal arteries only.

249. Adrenal cortical hyperplasia leads to Addison's disease
250. It receives its nerve supply through hypogastric plexus

**Regarding the ovaries**

251. They are entirely covered by peritoneum
252. The ligament of ovary is attached to its upper pole
253. The posterior border is related to ureter
254. The right ovarian vein drains into the right renal vein
255. Its medial surface is separated from the uterine tube by the ovarian bursa

**Regarding the uterine tube**

256. Infundibulum is the widest part of the tube
257. It is supplied by branches from internal iliac artery and abdominal aorta
258. It is developed from mesonephric duct
259. Salpingitis can lead to pelvic peritonitis
260. Lymphatics from its isthmus drain into superficial inguinal nodes