

Reg. No.

MANIPAL UNIVERSITY

MBBS PHASE I STAGE I DEGREE EXAMINATION – AUGUST 2013

SUBJECT: ANATOMY – I (ESSAY)

Saturday, August 10, 2013

Time: 09:00 – 11:00 Hrs.

Max. Marks: 60

1. List the similarities and differences between the hyaline and elastic cartilages. (5 marks)
2. Name the bones taking part in the formation of the hip joint. Name the ligaments of the hip joint and mention the movements possible at this joint. (1+2+2 = 5 marks)
3. Mention the insertion and nerve supply of the diaphragm. Name its major openings and give their vertebral levels. (2+3 = 5 marks)
4. Write a note on chorionic villi. (5 marks)
5. With a labelled diagram explain the relations of the mediastinal surface of the left lung. (2+2 = 4 marks)
6. Explain the formation, course and termination of the inferior vena cava. Name its tributaries. ($\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+2\frac{1}{2} = 4$ marks)
7. Mention the relations and tributaries of cavernous sinus. Add a note on its clinical anatomy. (2+1+1 = 4 marks)
8. A 9 year old boy was hit by a knife on the side of his face accidentally. On examination, a small skin wound was found over the right parotid gland. Six months later, the boy's mother noticed that during meals the boy began to sweat profusely on the facial skin close to the healed wound.
 - 8A. What is this condition called?
 - 8B. Why was the boy sweating profusely on the facial skin during meals?
 - 8C. Trace the secretomotor pathway for the parotid gland. (1+1+2 = 4 marks)

9. Answer the following questions regarding the **second part** of the duodenum

9A. Name **any two** of its anterior relations

9B. Name **any two** of its posterior relations

9C. Name the arteries supplying it

9D. Mention its development

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

10. Describe the blood supply of the spleen. Name the organs related to it.

(2+2 = 4 marks)

11. Draw a neat labelled diagram of transverse section of lower part of pons.

(4 marks)

12. Describe the attachments, nerve supply and actions of the superior oblique muscle of the eye ball.

(2+½+1½ = 4 marks)

13. A 50- year old man, following a total thyroidectomy for carcinoma of thyroid gland, felt tingling numbness of fingers and lips, painful cramps of hands and feet with frequent headaches. Blood investigation confirmed hypocalcemia.

13A. With your knowledge of anatomy, name the organs damaged during thyroidectomy.

13B. Describe the position, blood supply and development of those organs.

(1+3 = 4 marks)

14. With the help of a labelled diagram, describe the histology of the testis.

(4 marks)



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MBBS PHASE I STAGE I DEGREE EXAMINATION – AUGUST 2013

SUBJECT: ANATOMY – II (MCQs)

Saturday, August 10, 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.

About the bones

101. Every long bone has at least one primary ossification centre
102. Compact bones contain concentric lamellae
103. Carpal bones are examples for irregular type of bones
104. Appositional growth contributes to the increase in length of the bones
105. Diaphysial artery supplies mainly the shaft of the long bone

About the joints

106. Superior radioulnar joint is a pivot variety of synovial joint
107. Shoulder joint cavity contains the tendon of long head of triceps brachii muscle
108. Temporomandibular joint is a complex synovial joint
109. First carpometacarpal joint is adducted by adductor pollicis muscle
110. Elbow joint is the meeting point of humerus, radius and ulna

About the knee joint

111. Excessive forward displacement of tibia is common in the damage of the anterior cruciate ligament
112. Injury to the medial meniscus is more common than that of the lateral meniscus
113. Medial meniscus is attached to the tibial collateral ligament
114. Anteriorly, its capsule is replaced by the oblique popliteal ligament
115. Its locking takes place at the end of flexion

About the scapular muscles

116. Deltoid is supplied by the suprascapular nerve
117. Supraspinatus abducts the arm
118. Paralysis of serratus anterior results in winging of scapula
119. Teres major arises from the lower one-third of the medial border of the scapula
120. Subscapularis is inserted into the lesser tubercle of the humerus

Regarding spermatogenesis

121. It takes place in the walls of the seminiferous tubules of the testis
122. The type B spermatogonia undergo mitosis to form primary spermatocytes
123. The spermatids contain diploid number of chromosomes

124. One secondary spermatocyte gives rise to four spermatids

125. It is the process by which a spermatid becomes a spermatozoon

About the muscles of the posterior compartment of the leg

126. Tibialis posterior is supplied by tibial nerve
127. Soleus and gastrocnemius join to form tendocalcaneus
128. Plantaris muscle unlocks the knee joint
129. Gastrocnemius muscle acts on knee and ankle joints
130. Popliteus muscle takes origin from tibia and fibula

About the muscles of facial expression

131. They develop from first pharyngeal arch
132. Orbicularis oculi helps to close the eye
133. They are inserted into the skin of the face
134. All of them are supplied by mandibular division of trigeminal nerve
135. Orbicularis oris is used to open the mouth

Regarding the blood vessels of the upper limb

136. The cephalic vein terminates into axillary vein
137. The axillary artery is divided into three parts by the pectoralis minor muscle
138. The radial artery passes through the anterior compartment of the forearm
139. The superficial palmar arch is situated superficial to the palmar aponeurosis
140. The brachial artery terminates in the cubital fossa

Regarding the pleura

141. Pulmonary pleura covers the lung
142. Mediastinal pleura is a part of parietal pleura
143. Its costodiaphragmatic recess extends from 8th to 10th ribs in the midaxillary line
144. Pulmonary pleura is drained by azygos vein
145. Parietal pleura is supplied by bronchial arteries

Regarding the pericardium

146. It is situated in the superior mediastinum
147. On each side, it is related to phrenic nerves
148. It has heart as one of its contents
149. Its oblique sinus lies behind the left atrium
150. Its transverse sinus is bounded posteriorly by superior vena cava

Regarding the mediastinum

151. It is the space between two lungs
152. Superior mediastinum contains trachea and oesophagus
153. Middle mediastinum contains arch of aorta
154. Anterior mediastinum lies behind the body of the sternum
155. Posterior mediastinum contains superior vena cava

Regarding the arteries of heart

156. Coronary arteries are branches of arch of aorta
157. Right coronary artery supplies right atrium
158. Left coronary artery supplies whole of the interventricular septum
159. Left coronary artery supplies greater part of the left ventricle
160. Thrombosis of coronary arteries leads to myocardial infarction

About the epiploic foramen

201. Its anterior boundary is formed by the right free margin of the lesser omentum
202. Its posterior boundary is formed by the abdominal aorta
203. Its inferior boundary is formed by the portal vein
204. Through this foramen, the peritoneal cavity communicates with the exterior
205. It is situated at the level of second lumbar vertebra.

About the pharynx

206. Its wall has striated muscles
207. Its infections can spread to the middle ear through the auditory tube
208. Lateral wall of oropharynx contains palatine tonsil
209. Piriform fossa is situated in the lateral wall of nasopharynx
210. Pharyngeal diverticula are commonly formed at the nasopharynx

About the pancreas

211. Tumors of its head can compress the bile duct
212. Its body is related to the splenic vessels
213. It has serous acini
214. Its uncinata process develops from dorsal pancreatic bud
215. Its duct drains the secretions of islet of Langerhans

About the liver

216. Its posterior surface is related to the gall bladder
217. Its hepatocytes are mesodermal in origin
218. It is separated from the diaphragm by the hepato-renal pouch
219. It receives the blood from the portal vein
220. It has the fissure for ligamentum venosum on its inferior surface

About the thoracic duct

221. It begins as the continuation of cisterna chyli
222. It has numerous valves
223. It drains the lymph from the right upper limb
224. It passes through the posterior mediastinum
225. It passes through the inlet of thorax

About the blood vessels of the brain

226. Thrombosis of anterior cerebral artery leads to sensory aphasia
227. Thrombosis of anterior inferior cerebellar artery leads to lateral medullary syndrome
228. Middle cerebral artery supplies paracentral lobule
229. Great cerebral vein joins with the inferior sagittal sinus to form straight sinus
230. Thrombosis of posterior cerebral artery leads to bitemporal hemianopia

About the cerebrum

231. Lesion of its Broca's area leads to motor aphasia
232. Vascular lesion of occipital cortex results in contralateral homonymous hemianopia
233. Lower part of its precentral gyrus is supplied by anterior cerebral artery
234. Its insula is drained by superior cerebral veins
235. Its central sulcus separates the motor and somato-sensory areas from each other

About the nerves of the lower limb

236. Injury to the common peroneal nerve leads to foot drop
237. Anterior division of obturator nerve supplies the obturator internus muscle
238. Tibial nerve divides into medial and lateral plantar branches
239. Femoral nerve lies in the lateral compartment of the femoral sheath
240. Deep peroneal nerve pierces the interosseous membrane

About the middle ear

- 241. It develops from the tubotympanic recess
- 242. Its medial wall has the aditus to mastoid antrum
- 243. Its mucosa is supplied by the chorda tympani nerve
- 244. Its posterior wall has the fossa incudis
- 245. Its roof is formed by tegmen tympani

Regarding the hypophysis cerebri

- 246. It is separated from the optic chiasma by the diaphragm sellae
- 247. The sphenoidal air sinus lies inferior to it
- 248. It receives its arterial supply through the branches of internal carotid artery
- 249. Its posterior lobe produces the oxytocin
- 250. Its anterior lobe develops from the Rathke's pouch

The vas deferens

- 251. Begins as a continuation of the tail of epididymis
- 252. Ends by opening into the prostatic urethra
- 253. Develops from mesonephric duct
- 254. Descends on the lateral side of the seminal vesicle
- 255. Crosses behind the ureter

Regarding the development of female genital system

- 256. Oogonial cells are derived from mesodermal cells of yolk sac
- 257. Endometrium of uterus is endodermal in origin
- 258. Round ligament of uterus and ligament of ovary develop from the gubernaculum
- 259. Mesonephric duct remnants are seen in the broad ligament
- 260. Splanchnopleuric layer of lateral plate mesoderm gives rise to smooth muscles of uterus and uterine tube

