

# Question Paper

Exam Date & Time: 20-Dec-2021 (10:00 AM - 01:00 PM)



**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**FIRST MBBS DEGREE (CBME) EXAMINATION - DECEMBER 2021**  
**SUBJECT: ANATOMY - PAPER I**  
**Anatomy Paper-I [AN 101THP1]**

Marks: 80

Duration: 160 mins.

**All questions are compulsory.**

**Write brief, clear, relevant and legible answers.**

**Illustrate your answers with diagrams and flow-charts wherever appropriate.**

**Essay:**

1. A long distance runner presented with, swelling of the right leg associated with pain which increases with leg movement. He also complained of difficulty of movements at foot and loss of sensation between the first and second toes. His doctor told him that the swelling in the anterior compartment of the leg has led to compression of an artery running in the compartment and was the cause for pain.
  - 1A. Analyze the case and identify the structure, the involvement of which has led to loss of sensation between the first and second toes.(1)
  - 1B) Describe the origin, course and area of distribution of the above involved structure. (4)
  - 1C) Tabulate the movements that could be affected and the muscles that bring about these movements. (4)
  - 1D) Name the artery which is getting compressed in this case. (1)
  
2. A 50-year old patient presented with cough, hoarseness of voice and a swelling that protruded from the upper margin of the sternum. On examination, there was tracheal tug and the swelling was diagnosed to be due to localized dilatation of a structure that is related to the left lung above its root.
  - 2A) Analyze the case and name the structure involved. (1)
  - 2B) Describe the course, relation of the affected structure. (6)
  - 2C) Mention its branches. (2)
  - 2D) Give reason for hoarseness of voice. (1)
  
- 3A. Panniculus carnosus is a subcutaneous muscle present in animals and help in the movement of the skin. Name four muscles which represents this in humans along with their nerve supply (4)
- 3B) Describe the attachment and applied anatomy of the muscle which is powerful protractor of scapula..(4)

- 3C) Describe any FOUR anomalies of placenta. (4)
- 3D) This innervates the infrahyoid strap muscles of the neck. Name this nerve. Name the triangle in which it is formed and list the other contents of the triangle.(4)
- 3E) Compare and contrast the microanatomy of lymph node and spleen. (4)
- 3F) Describe the attachments and nerve supply of the dome - shaped flat muscle that closes the thoracic outlet.(4)
- 3G) Describe the process of neurulation. (4)
- 3H) Draw a diagram and describe the expansion, related to the extensor digitorum tendon of the hand. (4)
- 3I) Illustrate the microscopic feature of the muscle of the heart. Enumerate the other two muscle types in human body.(4)
- 3J) The pulsation of this artery on the dorsum of foot helps you to evaluate the peripheral arterial diseases in the lower limb. Describe the course and branches of this artery.(4)
- 3K) This nerve plexus is formed within the substance of psoas major muscle. Describe its formation and enumerate its branches. (4)
- 3L) Illustrate the microscopic structure of the lung and write its salient features. (4)
- 3M) Tabulate the movements and the muscles producing the movements of elbow and radioulnar joints. (4)
- 3N) Describe the course and branches of a typical intercostal nerve. (4)
- 3O) This septal defect is one of the manifestation in tetralogy of Fallot's. Describe the development of this septum. (4)

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# Question Paper

Exam Date & Time: 21-Dec-2021 (10:20 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST PROFESSIONAL MBBS (CBME) DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: ANATOMY - PAPER II

Marks: 80

Duration: 160 mins.

**Answer all the questions.**

**All questions are compulsory.**

**Write brief, clear, relevant and legible answers.**

1. A 69-year-old man presented with a 1-year history of difficulty in initiation of movement and instability. Over the last few months his wife noticed that he has developed a tremor in hand while at rest. On examination there was decrease swinging of arms with shuffling (short step) gait and limb rigidity. Neurologist confirmed it as a disease of basal ganglia
  - 1A) Analyze the given case and name the clinical condition and the structure affected. (2)
  - 1B) Describe the anatomical subdivisions of basal ganglia (3)
  - 1C) Describe its connections and functions of basal ganglia (5)
  
2. A 57-year-old multiparous, presented with history of mass descending per vagina since one year. Also, she complained of urinary incontinence and painful micturition. Pelvic examination revealed a pink globular mass protruding outside the vaginal orifice. A probable diagnosis of pelvic organ prolapse was made.
  - 2A) Analyze the given case and name the pelvic organ that might have prolapsed. (1)
  - 2B) Describe the parts and normal position of the organ involved. (3)
  - 2C) Describe the anatomical structures that normally prevent this organ from prolapsing. (6)

### 3. Write short notes:

- 3A. In a 40-year old male with complaints of unexplained weight loss and anemia. Endoscopic examination revealed a large, irregular ulcerated lesion was noted in an organ that acts as a reservoir of food. Analyze the case and describe the lymphatic drainage of the involved organ with diagram.

- 3B) 65-year-old man presents with a 5-month history of right-sided flank discomfort and recent onset of gross hematuria. Examination revealed tenderness in the right renal angle. Describe the posterior relations of the organ involved in this case.
- 3C) Describe the gross anatomy of the structures which carry the secretion from the exocrine part of pancreas.
- 3D) Illustrate and describe the posterior wall of the widest and most dilatable part of male urethra.
- 3E) Explain the boundaries of fossa present in the lateral wall of laryngopharynx with its clinical significance.
- 3F) Illustrate and explain the microscopic structure of that part of small intestine which has mucous glands in its submucosa.
- 3G) Describe the development of collecting part of kidney with labeled diagram.
- 3H) Compare the areas of brain which deals with speech with their clinical aspects.
- 3I) A 22-year-old male patient with head trauma complained of double vision and restrictions in looking at the lateral side in the left eye. Analyze the case and name the nerve that is damaged. Describe the location of its nucleus in the brainstem, Draw a neat labeled diagram of the damaged nerve relation within the cavernous sinus.
- 3J) A 60-year-old male patient presented with complaints of progressive deterioration of vision followed by a minor trauma. Examination revealed a scar in the outermost coat of an eyeball that resulted in loss of vision. Name the structure affected and describe it.
- 3K) Discuss the muscles of middle ear.
- 3L) Illustrate the microscopic anatomy of the retina.
- 3M) Describe the fate of mesonephric duct in female.
- 3N) Illustrate the microanatomy of master endocrine gland of our body.
- 3O) Explain karyotyping with its application.

(4 marks X 15 = 60)

(END)