Sri Guru Ram Das University of Health Sciences, Sri Amritsar

Department of Anatomy

Guidelines for question paper as per the Medical Council of India, Competency Based Undergraduate Curriculum for Indian Medical Graduate.

Theory paper should include questions from core competencies and not from Non Core Competency

BLUEPRINT OF THEORY PAPER

Sr. No.	Type	Explanation	Topics	Distribution of marks as per weightage
1.	MCQ		**10 MCQs for Paper A** **10 MCQs for Paper B**	10 X 1 = 10 10 X 1 = 10
2.	Long essay question	1. The question should pose a Clinical/ Practical problem to the students and require them to apply knowledge and integrate it with disciplines. Avoid giving one liners as questions. 2. Avoid giving one liners as questions. 3. The question stem should be structured and marking distribution should be provided. 4. Use action verbs from higher domains as given in this document.	**Paper A (TWO Questions)** 1. Structured Question from core competency of • Head and Neck • Brain • Neuroanatomy • Upper Limb 2. Case Based Question from • Thyroid Gland • Parotid Gland • Submandibular Gland • Mammary Gland	1 X 10= 10 1 X 10= 10

			• Blood supply of Brain • All cranial Nerves for example Bell's Palsy that involves Facial Nerve, Torticollis/Wry Neck that involves 11th Cranial Nerve • Brachial Plexus e.g. Erb's Paralysis, Klumpke's Paralysis • Median Nerve for example Carpal Tunnel Syndrome • Radial Nerve e.g. Wrist Drop • Ulnar Nerve e.g. Claw Hand **Paper B (Two Questions)** 1. Structured Question from core competency of • Abdomen and Pelvis • Thorax • Lower Limb 2. Case Based Question from • Inguinal Canal and Hernia • Portal vein &Portal Hypertension • Great Saphenous vein & Varicose Veins • Bronchopulmonary Segments of Lungs • Coronary circulation and ischemic heart disease • Femoral Triangle and Femoral Hernia • Appendix e.g. Appendicitis • Prostate e.g. BHP Benign Hypertrophy of Prostate and carcinoma • Uterus e.g. Prolapse of Uterus and carcinoma • Anal Canal e.g. haemorrhoids	1 X 10= 10 1 X 10= 10
3.	Short Notes	These provide opportunity to sample a wider content, albeit in a short time. The questions should be task oriented rather than 'Write a short	**Paper A (8 Questions)** From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate , VOLUME 1	8 X 5 = 40

		note on xxx'. Preferably use verbs (as per List attached) in framing questions and structure them as far as possible	Marks for each part should be indicated separately **Paper B (8 Questions)** From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate , VOLUME 1 Marks for each part should be indicated separately	8 X 5 = 40
4.	Reasoning Questions	These provide excellent opportunities for testing integration, clinical reasoning and analytic ability of the student	**Paper A (3 Questions)** From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate , VOLUME 1 **Paper B (3 Questions)** From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate , VOLUME 1	3 X 5 = 15 3 X 5 = 15
5.	Applied Questions	Questions on applied aspect	**Paper A (3 Questions)** From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate , VOLUME 1 **Paper B (3 Questions)** From Core Competencies as per competency based undergraduate curriculum for the Indian Medical Graduate , VOLUME 1	3 X 5 = 15 3 X 5 = 15

Total Marks 200(Paper A- 100 marks, Paper B-100 marks)

Blueprinting in knowledge domain
(Representative example only. Actual figures may vary with the subject and phase)

Level	Topic A	Topic B	Topic C	Topic D	Total
Knowledge	1	2	1	1	5(20%)
Comprehension	1	1	1	2	5(20%)
Application	2	1	1	1	5(20%)
Analysis	1	1	2	2	6(24%)
Synthesis		1		1	2(8%)
Evaluation	1		1		2(8%)
Total	6(24%)	6(24%)	6(24%)	7(28%)	25(100%)

Verbs in various levels in Knowledge domain (Bloom's taxonomy)

Knowledge	Define, Describe, Draw, Find, Enumerate, Cite, Name, Identify, List, label, Match, Sequence, Write, State, Choose ,Indicate, isolate, Order, Recognize, Underline
Comprehension	Discuss, Conclude, Articulate, Associate, Estimate, Rearrange, Demonstrate understanding, Explain, Generalise, Identify, Illustrate, Interpret, Review, Summarise, Extrapolate, Update
Application	Apply, Choose, Compute, Modify, Solve, Prepare, Produce, Select, Show, Transfer, Use
Analysis	Analyse, Characterise, Classify, Compare, Contrast, Debate, Diagram, Differentiate, Distinguish, Relate, Categorise
Synthesis	Compose, Construct, Create, Verify, Determine, Design, Develop, Integrate, Organise, Plan, Produce, Propose, rewrite
Evaluation	Appraise, Assess, Conclude, Critic, Decide, Evaluate, judge, Justify, Predict, Prioritise, Prove, Rank

The question part of the MCQ (item) is called STEM; correct answer is called the KEY and the rest of the options are called DISTRACTORS.

Steps in writing:

1. Select the specific learning objectives which you want to test.
2. Write the stem, it should be self-explanatory and complete, avoid using terms like (NOT, EXPECT, NEVER, ALWAYS, SOMETIMES) in the stem, if the terms are being used they should be in UPPERCASE and **bold** letter.
3. Write unambiguous and unarguably the correct answer to the stem.
4. Select the most plausible alternatives and arrange them in the form of options.
5. Avoid window dressing of the stem. This means adding superfluous and unnecessary words which confuses the student.
6. Abbreviations should be avoided.
7. Options should be grammatically parallel to the key, and should be parallel and have the same relation to the stem.
8. When writing options, avoid duplications or making options all inclusive, e 1-6, 6-10 etc.
9. The options should be arranged in rank order, eg. 256, 266, 280, 290 and not 290, 266, 280, 256.
10. "All the above" and "None of the above" should be avoided as an option.

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Theory Paper A		Theory Paper B	
Topics	**Marks Distribution**	**Topics**	**Marks Distribution**
Head & Neck (Related Histology, Embryology and Applied Anatomy)	40	Abdomen and Pelvis (Related, Embryology and Applied Anatomy)	40
• Brain (Related Histology and Applied Anatomy) • Neuro Anatomy	25	Thorax(Related Histology, Embryology and Applied Anatomy)	20
Upper Limb (Applied Anatomy)	25	Lower Limb (Applied Anatomy)	20
General / Basic Anatomy	10	General Embryology	10
		Genetics	10
Total	**100**	**Total**	**100**

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Maximum Marks : 100 | **MBBS 1st Professional Examination** | Time : 3 Hours

Subject- Anatomy

Paper-A

Note: 1. Attempt all questions. Illustrate your answer with suitable diagrams where applicable.
2. Question No. 1 (MCQ) to be attempted on OMR Sheet (Time: 15 Min.)
3. Question No. 2-6 to be attempted on separate answer book (Time: 2:45 Min.)

QP Code: MB20601

1. Multiple Choice Questions(MCQs) : [10X1=10]

A. The spine of the scapula is continued laterally as the:
a. Coracoid process.
b. Angle of the scapula.
c. Acromion.
d. Infraglenoid tubercle.

B. The corpus callosum is a
a. source of hypothalamic hormones
b. neural pathway that connects the right and left hemispheres
c. part of the neocortex
d. structure in the cerebellum

C. In the 4th week after conception, the neural tube develops three swellings. These are
a. telencephalon, diencephalon and myelencephalon
b. telencephalon, diencephalon and metencephalon
c. cerebral cortex, limbic system and basal ganglia
d. forebrain, midbrain and hindbrain

D. The inferior and superior colliculi compose the
a. thalamus
b. myelencephalon
c. tectum
d. tegmentum

E. After multiple tooth extraction in an old man, he experiences a radiating pain affecting a lower eye lid, lateral side of the nose, upper lip and skin over the zygomatic and temporal areas of left side. Which nerve is involved?
a. Facial Nerve
b. Ophthalmic division of Trigeminal nerve
c. Glossopharyngeal Nerve
d. Maxillary division of Trigeminal nerve

F. While testing innervation of Extraocular muscles in a patient, who frequently experiences double vision. When asked to turn the right eyeball inwards and downwards the patient was able to look downwards but can't see downwards. Which nerve is involved?
a. Abducent Nerve
b. Superior division of oculomotor nerve
c. Inferior division of oculomotor nerve
d. Trochlear nerve

G. An adolescent boy suffers from severe infection on face through complication of acne. He subsequently develops fever and deteriorates into confused mental state and drowsiness. The doctor diagnoses this condition is due to cavernous infection and thrombosis. Which structure may be the route of infection to cavernous sinus?
a. Carotid artery
b. Middle meningeal artery
c. Ophthalmic vein
d. Parietal emissary vein

H. A female accidentally walks through a glass door. The shattered glass is pierced in the postero-lateral part of her neck region. She is unable to lift her tip of shoulder of the injured side. Which nerve is injured

a. Accessory
b. Dorsal scapular
c. Greater occipital nerve
d. Suboccipital nerve

I. After difficult delivery of a child ,Gynaecologist found limping of limb of the newly born child which was hanging by the side, limb was medially rotated, forearm was pronated , there must be lesion of

a. Upper lesion of brachial plexus
b. Lower lesion of brachial plexus
c. Lesion of ulnar nerve
d. Lesion of thoracodorsal nerve

J. A person was running from his office, by chance his left hand smashed with a glass, in hospital ,he was found to have sensory loss over the palmer aspect of medial one and half fingers but normal sensation on the back of these fingers. He had difficulty in grasping a piece of paper between her left index and middle fingers. All the long tendons were intact. All the following statements regarding this patient are correct EXCEPT

a. Palmer cutaneous nerve was not cut
b. Paralysis of second palmer cutaneous nerve was there
c. Posterior cut branch of ulnar nerve was spared
d. Ulnar was not involved

2. Describe the Shoulder joint under following Headings: [2+4+4=10]

a. Type and articular surfaces.
b. Relations and Ligaments
c. Movements and muscles involved

3. A 30 years old male walked into the Emergency Department complaining of right sided facial numbness and weakness including the inability to close his right eye , fluid dripped out of the right side of his mouth while drinking, had slurred speech. He denied any numbness, tingling or weakness in his extremities. He was referred on to a Neurologist who confirmed the diagnosis of Bell's Palsy. On the basis of above diagnosis , answer the following questions : [1+4+3+2=10]

a. Which cranial nerve is involved in this case?
b. Explain the Origin, course and termination of the Cranial nerve involved in Bell's Palsy.
c. Enumerate the branches of the nerve involved.
d. Compare the Supranuclear and infranuclear facial paralysis

4. Draw & Label / Preferably Reasoning Questions: [3x5=15]

a. Boundaries and contents of Carotid Triangle.
b. Microanatomy of Tongue
c. Transverse section of Midbrain at the level of Inferior colliculus

5. Write short notes on: [8 x 5=40]

a. List general differences between arteries & Veins.
b. Classify various types of bones and describe the structure-function correlation of the same
c. Describe the nuclei and connections of Thalamus
d. Enumerate the parts & major connections of basal ganglia
e. Describe connections of cerebellar cortex and intracerebellar nuclei
f. Describe location and functional anatomy of Maxillary air Sinus
g. Explain the clinical significance of Pterygoid venous plexus
h. Describe the relations and blood supply of Thyroid Gland

6. Write short notes on (Applied Questions): [3x5=15]

a. Describe the anatomical basis of Saturday night paralysis
b. Explain the anatomical basis of Venepuncture of Cubital veins
c. Explain the anatomical basis of Oculomotor, trochlear and abducent nerve palsies along with strabismus.

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Maximum Marks : 100 | **MBBS 1st Professional Examination** | Time : 3 Hours

Subject- Anatomy

Paper-B

Note: 1. Attempt all questions. Illustrate your answer with suitable diagrams where applicable.
2. Question No. 1 (MCQ) to be attempted on OMR Sheet (Time: 15 Min.)
3. Question No. 2-6 to be attempted on separate answer book (Time: 2:45 Min.)

QP Code: MB20602

1. Multiple Choice Questions (MCQs) : [10x1=10]

A. During inspiration, anteroposterior diameter of thorax increases by
a. Buckle handle movements of the ribs
b. Pump handle movements of the ribs
c. Bucket handle movement of the sternum
d. Pump handle movement of the sternum

B. Left superior intercostal vein drains into:
a. Accessory hemiazygos vein
b. Hemiazygos Vein
c. Azygos Vein
d. Left brachiocephalic vein

C. Circumflex Artery and Anterior Descending Branches arise from:
a. Right Marginal Artery
b. Right Main Coronary Artery
c. Left Main Coronary Artery
d. Posterior Descending Artery

D. A patient presented with of paralysis of muscles of anterior compartment of leg resulting in loss of power of dorsiflexion of the foot. As a result the foot is plantar flexed. This condition is called as
a. Sleeping foot
b. Sciatica
c. Foot drop
d. Peripheral neuritis

E. A 19 years old college student receives a severe blow on the side of left knee joint while playing football. Radiographic examination revealed fracture of head and neck of fibula. Which of the following nerve is damaged?
a. Sciatic Nerve
b. Common perineal Nerve
c. Tibial Nerve
d. Femoral Nerve

F. The stomach bed does not include-
a. Pancreas
b. The splenic flexure of colon
c. Right Kidney
d. Diaphragm

G. The most common type of female pelvis is-
a. Antdroid
b. Anthropoid
c. Gynaecoid
d. Platypalloid

H. The most important structure involved in development of inferior vena cava is:
a. Umbilical vein
b. Supracardinal vein and subcardinal veins
c. Anterior cardinal vein
d. Posterior cardinal vein

I. **All are derivatives of septum transversum EXCEPT:**
   a. Ligamentumteres
   b. Falciform ligament
   c. Coronary ligament
   d. Lesser omentum

J. **The Liver is formed from which of the following embryonic structures:**
   a. The Vitelline veins
   b. The Septum transversum
   c. The gastrointestinal endoderm
   d. All of the above

2. **Describe the Knee Joint under following Headings:** [2+2+4=10]
   a. Type and articular surfaces
   b. Ligaments of the Joint
   c. Movements and muscles involved

3. **A 60 years Male visited a surgeon with complaint of a swelling in right inguinal region above the groin crease since one year. On Examination surgeon observed single pyriform shaped swelling of size 10x4cms extending from above and medial part of right inguinal ligament down into the scrotum upto upper pole of right testis which increases in size with coughing, straining, lifting of weight and disappears on lying down position. Skin over the swelling is normal. Cough impulse present. On Palpation surgeon observed that consistency of the swelling was doughy, granular, testes palpable separately from the swelling, on Occlusion of deep inguinal ring with thumb, swelling didn't appear. On the basis of above statement, answer the following questions:** [1+4+3+2=10]
   a. Define Hernia.
   b. Describe the extent, boundaries & Contents of Inguinal Canal including Hesselbach's Triangle.
   c. Explain the anatomical basis of Inguinal Hernia
   d. Compare Indirect and Direct Inguinal Hernia.

4. **Draw & Label /Preferably Reasoning Questions:** [3x5=15]
   a. Boundaries and contents of Popliteal Fossa.
   b. Impressions on Mediastinal surface of Left Lung.
   c. Microanatomy of Appendix

5. **Write the short notes on:** [8x5=40]
   a. Describe the embryological basis of twinning in monozygotic and dizygotic twins.
   b. Describe theformation, functions and fate of Chorion.
   c. Describe the genetic basis and clinical features of Edward Syndrome
   d. Draw pedigree charts for various types of inheritance and give examples of diseases of each mode of inheritance.
   e. List the differences between Small Gut and Large Gut.
   f. Mention the extent, branches and relations of descending thoracic aorta
   g. Describe the embryological basis of Fallot's tetralogy and Tracheo-Oesophageal fistula
   h. Describe the External& internal features and lymphatic drainage of Stomach

6. **Write short notes on (Applied Questions):** [3x5=15]
   a. Enumerate the sites of portosystemic anastomosis. Explain the anatomical basis of hematemesis & Caput medusa in portal hypertension.
   b. Explain the anatomical basis of Trendelenburg sign.
   c. Describe anatomical basis of Ischaemic heart disease.