53. During the development of limb buds , the embryonic structure that induces morphogenesis ,progression and regional differentiation is :
a. Apical ectodermal ridge
b. digital rays
c. foot and hand plates
d. interzonal region

54. A 16 year-old boy fell from a motorcycle, and his radial nerve was severely damaged because of a fracture of the midshaft of the humerus. Which of the following conditions would most likely result from this accident?
a. Inability to oppose the thumb against little finger
b. Loss of wrist extension leading to wrist drop
c. Sensory loss over the ventral aspect of the base of the thumb
d. Weakness in pronating the forearm

55. A lab technician is drawing blood from a vein in cubital fossa. The vein used for drawing blood in this case is:
a. Axillary vein
b. Basilic vein
c. Cephalic vein
d. Median cubital vein

56. The Femoral artery Pulsation can be palpated at
a. femoral canal
b. mid inguinal point
c. pubic tubercle point
d. sephanous opening

57. In the emergency department, a young house officer has to do tracheostomy for a patient with extreme breathing distress. What is themost probable site he should insert tube through:
a. First and second tracheal rings
b. Second and third tracheal rings
c. Third and fourth tracheal rings
d. Fourth and fifth tracheal ring

The typical thoracic vertebra is identified as because it has:
a. Costal facets
b. short spine
c. Two marked facets
d. Wide curved arch

59. A postgraduate resident was teaching the procedure of pleural tap to the students of final year MBBS. He explained them that during tapping a pleural effusion, it is important to pass needle:
a. Above the posterior angle of rib
b. Above the upper border of the rib
c. Near the lower border of rib
d. Near the anterior angle of rib

60. The first posterior intercostal vein drains into :
a. Superior vena cava
b. Azygos vein
c. Hemiazygos vein
d. Brachiocephalic vein

61. Which of the following muscle originates from floor of costal groove?
a. External intercostal.
b. Internal intercostal.
c. Subcostalis.
d. Sternocostalis.

62. A 30 years old male patient presents with pneumonia. His lateral view chest X-ray reveals that pneumonia is localized just inferior to the horizontal fissure where would the pneumonia most likely be localized:
a. Inferior lobe of the left lung
b. Inferior lobe of the right lung
c. Middle lobe of the left lung
d. Middle lobe of the right lung

63. How many bronchopulmonary segments are present in lingula of left lung?
a. 1.
b. 2.
c. 3.
d. 4.

31. Hematopoietic Stem Cells give rise to both the myeloid and lymphoid lineages of blood cells. Myeloid cells include:
a. B-lymphocytes
b. Erythrocytes
c. Natural killer cells
d. T-lymphocytes

32. A neonate one- month-old is brought to the hospital suffering from a familial hemolytic disease associated with a variety of mutations that lead to defects in red blood cell (RBC) membrane proteins producing hemolytic anaemia. The consultant hematologist concludes it to be
a. Elliptocytosis
b. Erythrocytosis
c. Leukocytosis
d. Spherocytosis

33. During mediastinotomy a large lymphatic duct Thoracic duct was observed with beaded appearance, which one of the following is TRUE for this duct:
a. Directly drains the lymph nodes.
b. Enters the superior vena cava.
c. Forms an interface between lymph and blood
d. Transport T cells from bone marrow to thymus.

34. Regarding Histology of Spleen ,it is characteristically identified in the form of white and red pulp. its red pulp is manifested as :
a. Cords of Billroth
b. Hassals corpuscles
c. PALS around arteriole
d. Lymhocytic nodules

35. Infections are common in children due to problems with the immune system's T cell-mediated response that in some patients is due to an absent or hypoplastic thymus, a condition known as:
a. Autoimmune hemolysis
b. Criduchat syndrome
c. Di-Georges syndrome
d. Hemoglobinopathy

36. Among the different cell types present in various regions of lymph node, the majority of cells in paracortical area of a lymph node are comprised of:
a. Follicular dendritic cells
b. Macrophages
c. Plasma cells
d. T Lymphocytes

37. The femoral sheath is a funnel-shaped fasci formed by the following abdominal fascias: Extends anteriorly down to the femoral vessels. The sheath is composed of :
a. camper fascia
b. fascia lata
c. iliac fascia
d. tensor fascia

38. Structures passing through both greater and lesser sciatic foramen are all EXCEPT :
a. Internal pudendal vein
b. Nerve to obturator internus
c. Pudendal nerve
d. Tendon of obturator internus

39. The stability of the Ankle joint is maintained by all EXCEPT :
a. Deltoid ligament
b. Lateral ligament
c. Planter calcaneonavicular ligament
d. shape of superior talar articular surface

40. A patient 56 year-old comes to the clinic with the complaints of severe backache in the lower back region . On examination Clinical features observed showing L5-S1 disc prolapse would be related to :
a. Hypertonic reflexes on contralateral side
b. loss of sensation on lateral side of foot and sole
c. Radiating pain on lateral side of leg region
d. weakness of Extensor Hallucis longus muscle

41. Trendlenburg is a useful test for hip joint dysfunction .A positive Trendlenburg sign is identified when the patient is unable to maintain the pelvis horizontal to the floor while standing on one foot due to weakness in hip Abductors results from injury /lesion to the nerve which is :
a. Inferior gluteal

20. It is a prenatal test that checks for genetic or chromosomal abnormalities in fetus by taking a tissue sample from the placenta: It is known as :
a. Amniocentesis
b. Biopsy process
c. Chorionic villous sampling
d. Karyotyping

21. Regarding classification of glandular epithelium According to the secretory mechanism, Mammary glands are classified as :
a. Apocrine
b. Endocrine
c. Merocrine
d. Holocrine

22. In terms of cellular functional histology while studying cell organelles, first year medical student found that nucleolus :
a. contains ATP used for chromosomal duplication
b. has a developed surrounding membrane
c. is the site of ribosomal RNA synthyesis
d. located in endoplasmic golgi apparatus

23. Which of the following type collagen fibre is present in basement membrane of the epithelium.
a. Type-I
b. Type-II
c. Type-III
d. Type-IV

24. A medical student was studying the structure of intercellular junctions. He observed that the cytoskeleton associated with zonula occludens is composed of :
a. Actin filaments
b. Intermediate filaments
c. Vimentin filaments
d. Microtubules

25. While studying the slide of hyaline cartilage it is found that this can be identified in the form of isogenic groups surrounded by Territorial matrix with intervening interterritorial matrix showing characteristic :
a. chondroitin sulfate
b. Elastic fibers
c. Ground substance
d. Metachromasia

26. The basal layer in stratified squamous epithelium is composed of cells that appear as :
a. cuboidal
b. cuboidal-columnar
c. psuedostratified
d. squamous

27. The lymphoid organ containing white and brown adipocytes, myeloid stem cells, haematopoietic stem cells ,fatty tissue is :
a. Bone marrow
b. Lymph node
c. Spleen
d. Thymus

28. In skin the Malpighian layer is formed of stratum :
a. basale and spinosum
b. granulosum
c. Lucidum
d. spinosum and lucidum

29. The lingual surface of epiglottis also known as Lingual mucosa is lined by epithelium which is :
a. psuedostratified
b. simple cuboidal
c. simple columnar
d. stratified squamous

30. Regarding histochemistry of connective tissue matrix a glycosaminoglycan that serves as a major component of ground substance and is involved in tissue hydration and viscosity is :
a. Carboxylate
b. Chondroitin
c. Hyaluronic acid
d. Sulfate polymer

64. During a thoracocentesis to remove pleural exudates, a patient feels pain as the needle enter the pleural sac. Which nerve fibers carried the painful sensations:
a. Greater splanchnic nerve
b. Intercostal nerve
c. Phrenic nerve
d. Vagus nerve

65. Thoracic duct crosses from the right to the left at the level of which vertebra?
a. C7 vertebra
b. T12 vertebra
c. T2 vertebra
d. T5 vertebra

66. Fracture of the rib commonly occurs at :
a. mid shaft of the rib
b. costo-chondral junction
c. angle of the rib
d. neck of the rib

67. A 50-year-old man brought to emergency with intense chest pain. After investigation he was found to have left ventricle inferior wall myocardial infarction .Which of the following artery is most likely involved in this case ?
a. Anterior descending artery
b. Circumflex artery
c. Posterior descending artery
d. Right coronary artery

68. A 6-week-old infant presents with bluish discoloration of skin off and on , An echocardiogram reveals a large ventricular septal defect affecting the membranous part of the septum .Which of the following structure might have suffered from a developmental defect ?
a. Bulbuscordis
b. Endocardial cushions
c. Septum primum
d. Septum secundum

69. A house officer in cardio ward is monitoring circulatory changes that occur through neonatal period and infancy . Which of the following structure can she appreciate in a 3-month –old infant with normal growth ?
a. Ductus arteriosus
b. Ductus venosus
c. Foramen ovale
d. Fossa ovalis.

70. The 4th aortic arch is responsible for the formation of :
a. arch of aorta
b. pulmonary artery
c. pulmonary vein
d. Subclavian vein

71. All of the following are formed from vitelline vein EXCEPT :
a. Hepatic vein
b. Inferior vena cava
c. Superior mesenteric vein
d. Superior vena cava

72. Which of the following veins drain into the coronary sinus?
a. Anterior cardiac veins
b. Great cardiac vein
c. Phrenic vein
d. Vena cordis minimi

73. The brachiocephalic veins unite to form which of the following structures?
a. azygos veins
b. inferior vena cava
c. internal jugular and subclavian veins
d. superior vena cava

74. Which of the following structures develops into rough part of right ventricle?
a. Bulbous cordis
b. Conus cordis
c. Truncus arteriosus
d. Sinus venosus

75. The sterno-costal surface of the heart is formed primarily by the anterior wall of which heart chamber?
a. Left atrium
b. Left ventricle
c. Right atrium
d. Right ventricle

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b. Phrenic nerve
c. Vagus nerve
d.

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b. Left ventricle
c. Right atrium
d. Right ventricle

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10. A patient 40-year-old comes to clinic on examination found to have constricted pupils, increased salivation, lacrimation ,defecation ,bronchial constriction and related these clinical features with hyperstimulation of :
a. Autonomic nervous system
b. Parasympathetic nervous system
c. Sympathetic Nervous System
d. Visceral Nervous Syste

11. All of the following are True/correctly related to Notochord EXCEPT :
a. defines Axis of the embryo
b. derived from Hypoblast
c. serves as Primary Inductor
d. Remains as Nucleus pulposus

12. Fraternal twins (also called dizygotic twins) result from the fertilization of separate eggs with different sperm during the same pregnancy. In case of Dizygotic twins there is found to be :
a. One chorionic cavity
b. Two amniotic cavities
c. One umbilical cord
d. One connecting stalk

13. A rare genetic disorder caused by missing pieces on a particular chromosome. The characteristics of a newborn with include a high-pitched cry, a small head and a flattened bridge of the nose, it is diagnosed as :
a. Criduchat syndrome
b. Down syndrome
c. pinabifida.
d. Teratoma

14. The Uterine cycle is a series of changes woman body goes through each month to prepare for possible pregnancy. The phase of the cycle, when the lining of the uterus sheds is taken as :
a. Follicular phase
b. Menstrual phase
c. Proliferative Phase
d. Secretory phase

15. After parturition a gynecologist identified the surface of placenta appears shiny, smooth covered with amnion, having extensive network of villi developing bushy appearance with attached umbilical cord is known as:
a. Chorionic frondosum
b. Chorionic leave
c. Decidua Basalis
d. Decidua capsularis

16. While going through the developmental structures it is found that Regarding Umbilical cord :
a. contains one umbilical artery
b. contains two umbilical veins
c. length is around 25-30 cm
d. right umbilical vein disappears

17. A young female of 35 year of age comes to the OPD ,complaining of amenorrhea for the last two month along with excessive vomiting. Her pregnancy test is positive. she is not taking folic acid likely to develop anomaly. In order to interpret contextual changes which of the following test will be used for prenatal diagnosis ?
a. Alpha-fetoprotein
b. Urinary H.C.G
c. Amniocentesis
d. Blood estrogen

18. The epibiastic proliferated mass Primitive streak if fails to disappear during intrauterine life may result in tumor usually in lumbosacral region. This congenital anomaly is named as:
a. Chorionic carcinoma
b. Hydatidform mole
c. Spina bifida
d. Teratoma

19. A full term 40-year-old woman comes to gynae ward with complaints of pain in lower abdomen and pelvis for the last three days The House officer observed the implantation of the conceptus at the cervix resulted in excessive, fatal, vaginal bleeding immediately prior to delivery, which is the most probable diagnosis ?
a. Ectopic pregnancy
b. Menorrhagia
c. Ovarian cyst
d. Placentaprevia

51. The victim of an automobile accident has a destructive injury of the proximal row of carpal bones. Which of the following bone could be most likely damaged in this case ?

a. Capitate
b. Trapezium
c. Trapezoid
d. Triquetrum

52. A rotator cuff injury can occur due to a number of reasons, including aging, overuse, or an impact injury. Symptoms include Pain in the shoulder, especially when moving the arm overhead or away from the body. Muscles forming rotatorcuff are all as under EXCEPT (

a. Infraspinatus
b. Pectoralis minor
c. Supraspinatus
d. Teres minor

20022025

FIRST PROFESSIONAL M.B.B.S "ANNUAL EXAMINATIONS – 2025"

Paper: "ANATOMY - I" (B.C.Q'S & E.M.Q'S TYPES)

Time Allowed: 120 Minutes (B.C.Q's 75 marks) Max. Marks: 100

1. There are different types of bone development . Regarding Endochondral ossification it takes place in :
   a. Clavicle collar
   b. Flat bones skull
   c. Long bones
   d. Nasal bones

2. During the study of bone, a medical student comes to know that small bone which is found embedded within a muscle , tendon or joint capsule near joint surface to alleviate stress is:
   a. Carpal
   b. Phalanx
   c. Pisiform
   d. Talus

3. A medical student was studying the anatomy of circulatory system. He found that the example of Elastic artery is :
   a. Axillary artery
   b. Brachial artery
   c. Femoral artery
   d. Pulmonary artery

4. During the study of General gross anatomy, student is classifying joints of the body ,he finds the example of ball and socket joint is as under :
   a. Manibrosternal joint
   b. Metacarpophalangeal joint
   c. Talocalcaneo-navicular joint
   d. Temporomandibular joint

5. A 25 years old patient came in OPD with complain of pain and swelling in forearm. He gives history of free fall on the ground . Investigation reveals fracture on the upper end of radius. Most probably fracture site will be :
   a. Diaphysis
   b. Epiphysis
   c. Epiphyseal line
   d. Metaphysis

6. While studying General anatomy students explored that Traction Epiphyses are manifested in the form of :
   a. Coracoid process
   b. Deltoid tuberosity
   c. Greater Trochanter
   d. Head of hemerus

7. All of the following muscles architecture have parallel fibres EXCEPT :
   a. BicepesBrachii
   b. Rectus femoris
   c. Sartorius
   d. Tibialis anterior

8. The fusion of two bony structures with a ligament gives rise to joint is known as :
   a. Diarthrosis
   b. Synostosis
   c. Synchondrosis
   d. Syndesmosis

9. The following movement, during which fingers are spread apart away from the neutrally positioned middle finger is taken as :
   a. Abduction
   b. Flexion
   c. Extension
   d. Opposition

EMQ 3
Theme :THORAX

Options List:

a	Recurrent Laryngeal Nerve	f	Vagus nerve
b	Paraseptal emphysema	g	Centrilobular emphysema
c	Pulmonary trunk	h	Azygous vein
d	Pulmonary veins	i	Esophagus
e	Thoracic duct	j	Trachea

Select the most appropriate matching option from the options list for each statement given below.

11. The structure that crosses right to left side in posterior mediastinum at level of sternal angle
12. Emphysema is characterized by permanent enlargement of the air spaces distal to the terminal bronchioles ,accompanied by destruction of their walls. This type of emphysema is where alveoli are affected whereas distal airways proximal parts of acini formed by respiratory bronchioles, are spared.
13. The most posterior structure in middle mediastinum
14. The most common nerve damage during Tracheostomy
15. The structure which begins at the lower border of cricoid cartilage (C6 vertebral level about 5 cm above the jugular notch and ends at T5 .

EMQ-4
Theme: EMBRYOLOGY
OPTION LIST :

a	Terminal phase	f	Alveolar phase
b	Psuedoglandular phase	g	Extraembryonic coelom
c	Central nervous system	h	Canalicular phase
d	Intraembryonic coelom	i	Common cardinal vein
e	Vitelline vein	j	Peripheral nervous system

Select the most appropriate/correct matching option for each statement given below.

16. Neural crest cells arise from the wall of developing neural tube give rise to number of different structures
17. The lateral plate mesoderm is divided into two layers enclosing a cavity in which pleural pericardial and peritoneal cavities are developed
18. During this period, airway branching continues and the mesenchyme differentiates into cartilage, smooth muscle, and connective tissue around the epithelial tubes.
19. During embryological period the hepatic segment of inferior vena cava is derived from a vein
20. There is an increase in canaliculi, widening of the peripheral respiratory tubules with concurrent increase in pulmonary capillarization, forming the respiratory surface of the lung.

EMQ 5
Theme: Histology

Option List			
a	hemidesmosome	f	Simple cuboidal epithelium
b	Transitional epithelium	g	Puedostratified columnar ciliated epithelium
c	Zonula occludentes	h	Stereo-cilia
d	Stratified squamous keratinized epithelium	i	Simple Squamous epithelium
e	Cilia	j	Gap junctions

Select the most appropriate/correct matching option for each statement given below.

21. also known as tight junctions (TJs) or occluding junctions, are multiprotein complexes that seal the space between epithelial cells and prevent the leakage of water and solutes .
22. It is a small, stud-like structure that attaches epithelial cells to the extracellular matrix of the basement membrane.
23. A multilayered epithelium shows changablity, with Luminal surfaces are covered by round cuboidal cells , bulging tops ,umbrella like appearance line the urinary system
24. Epithelium responsible for protecting foreign particles, transport of substances, secretion of mucus, and absorption of excess fluid. It is made up of closely packed cells that appear to be arranged in layers because they're different sizes, but there's actually just one layer of cells.
25. The intercellular channels are formed by head-to-head docking of hexameric assemblies (connexons) of tetraspan integral membrane proteins, the connexins (Cx) facilitate Electrical activation of the heart:

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FIRST PROFESSIONAL M.B.B.S "ANNUAL EXAMINATIONS – 2025"

PAPER: "ANATOMY - I" (EXTENDING MATCHING QUESTIONS)

(E.M.Q's 25 Marks)

Instructions: (1) All questions carry equal marks.
(2) Each option can be used once, more than once or none or none at all.

EMQ 1

Theme :Upper Limb

Option List:

a	Extensor digitorum	f	Infraspinatus
b	Latissimus dorsi	g	Trapezius
c	Deltoid	h	serratus anterior
d	Biceps brachii	i	Teres Major
e	Triceps brachii	j	Extensor digitorum superficialis

Select and Match the most appropriate/correct option from the option list given above for each statement given below.

1. It originates from the lateral epicondyle of the humerus and inserts onto the middle and distal phalanges of the index, middle, ring, and little fingers: it generates the pull for the extension of the four medial fingers in their metacarpophalangeal and both interphalangeal joints.

2. It takes Origin from spinous processes of thoracic T7–T12, thoracolumbar fascia, iliac crest and inferior 3 or 4 ribs, inferior angle of scapula and insertion on floor of intertubercular groove of the humerus. Its primary actions are to adduct, extend, and medially rotate the upper arm at the shoulder joint.

3. Muscle with three heads runs in the posterior compartment of arm acts as Extensor of elbow joint.

4. A large Multipennate muscle whose fibres permit and facilitate adduction, abduction, lateral ,medial rotation as well as flexion extension at shoulder joint.

5. When the shoulder girdle is fixed, all three parts of the muscle work together to lift the ribs, assisting with respiration also known as the "boxer's muscle," is largely responsible for the protraction of the scapula, a movement that occurs when throwing a punch.

EMQ 2

Theme :LOWER LIMB

Options List:

a	Achillis tendon(Tendocalcaneus)	f	Tibial nerve
b	Great sephanous vein	g	Rectus femoris
c	Femoral vein	h	Flexor hallucis longus
d	Gastrocnemius,popliteus	i	Gluteus Medius
e	Common peroneal nerve	j	Gluteus Maximus

Select the most appropriate/correct option from the option list for each statement given below.

6. A patient presents with a thrombosis in the popliteal vein. This obstruction most likely causes reduction of blood flow in a vein

7. A patient unable to stand from sitting position ,got hit in lower back and hip region.

8. A construction worker falls from a roof. He sustains a fracture of the groove on the under surface of sustentaculumtali (calcaneum). one muscle tendon gets torned/injured badly

9. A young boy falls in which his head and neck of fibula are fractured as a result nerve is damaged

10. A patient is unable to stand on toes on the injured leg, unable to bend the foot downward having pain and swelling near the heel.