Exam Date & Time: 24-Sep-2024 (09:30 AM - 12:30 PM)

KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH

Anatomy Paper 1 [ANA1]

Marks: 100 **Duration: 180 mins.**

MCQ 20 X 1 = 20

Answer all the questions. Section Duration: 30 mins

1 All the following structures form indentations on the oesophagus EXCEPT _____ (1)

1) Aortic arch	2) Left bronchus	3) Diaphragm	4) Left ventricle

2 Base of heart is mainly formed by _____ (1)

1) Left ventricle	2) Right ventricle	3) Right atrium	4) Left atrium

3 Anterior condylar canal is the other name for (1)

1) Hypoglossal canal	2) Jugular canal	3) Foramen lacerum	4) Foramen magnum

4 All the following nerves emerge from the pontomedullary junction EXCEPT (1)

1) Trigeminal	2) Abducent	3) Facial	4) Vestibulocochlear

5 Which of the following peduncles connects pons with the cerebellum? (1)

1) Cerebral	2) Superior cerebellar	3) Middle cerebellar	4) Inferior cerebellar

6 Boxer's muscle is _____ (1)

1) Trapezius	2) Serratus anterior	3) Pectoralis major	4) Latissimus dorsi

7 The paralysis of deltoid muscle causes loss of abduction at the shoulder joint from (1)

1) Zero to 15 degrees	2) 15 to 90 degrees	3) Zero to 90 degrees	4) 90 to 180 degrees

8 The space that appears after formation of bilaminar germ disc between ectoderm (below) and trophoblast (above) is called as (1)

1) Amniotic cavity	2) Blastocystic cavity	3) Yolk sac	4) Chorionic cavity

9 Pharyngeal arches are rod-like thickening of _____ (1)

1) Ectoderm	2) Mesoderm	3) Endoderm	4) Dermatome

10 Components of connecting stalk are all of the following **EXCEPT** (1)

1) Allantoic diverticulum	2) Vitello Intestinal duct	3) Septum transversum	4) Umbilical cord

11 All of the following are parts of neurohypophysis EXCEPT (1)

1) Pars posterior	2) Pars intermedia	3) Median eminence	4) Infundibular stem

12 The optic nerve fibre layer of retina is formed by axons of which of the following cells? (1)

1) Glial cells	2) Rods & cones	3) Bipolar cells	4) Ganglion cells

13 Smallest duct of salivary gland is--- (1)

1)	Striated		2)	Intercalated		3)	Interlobular		4)	Intralobular	

14 The sectional plane that divides the body into anterior and posterior portions is (1)

1)	Transverse plane		2)	Sagittal plane		3)	Coronal plane		4)	Oblique plane	

15 All of the following are the examples of synovial joint EXCEPT (1)

1)	Pivot		2)	Saddle		3)	Syndesmosis		4)	Ellipsoid	

16 A 55-year-old female complained to her family physician of hard painless lump in the upper and outer portion of her right breast.The examination of the breast revealed the peau d'orange appearance of the skin, loss of mobility of the breast, and retraction of the nipple. She was diagnosed as a case of breast cancer. Peau d'orange appearance of the skin is because of _____ (1)

1)	Cancer cells infiltrating suspensory ligament		2)	Cancer cells infiltrating lactiferous ducts		3)	Cancer cells infiltrating lactiferous sinus		4)	Cancer cells obstructing the superficial lymph vessels	

17 A 45-year-old man presents to the clinic with a swollen and painful area just below his right ear. He reports that the pain worsens when he eats, and he has noticed a decrease in saliva production on that side. Upon examination, the physician notes a firm, tender mass in the region of the parotid gland. Which of the following structures is most likely involved in this patient's condition? (1)

1)	Wharton's duct		2)	Stenson's duct		3)	Wirsung's duct		4)	Rivinus duct	

18 A six-year-old child presented to hospital with complaints of facial puffiness and a feeling of lethargy. On examination, there was marked facial edema and prominent veins were detected on her upper chest and was diagnosed with superior vena caval syndrome. A chest X-ray showed a widened mediastinum. Name the mediastinum involved in this case scenario (1)

1)	Anterior mediastinum		2)	Posterior mediastinum		3)	Superior mediastinum		4)	Both 1 and 2	

19 Oesophagus pierces the diaphragm at the level of (1)

1)	6^{th} thoracic vertebra		2)	8^{th} thoracic vertebra		3)	10^{th} thoracic vertebra		4)	12^{th} thoracic vertebra	

20 The following structures form a part of tonsillar bed EXCEPT (1)

1)	Pharyngobasilar fascia		2)	Superior Constrictor muscle		3)	Middle constrictor muscle		4)	Buccopharyngeal fascia	

Long Essay 10 X 2 = 20

Answer all the questions.

21 Describe the axilla under following headings:
a. Boundaries b.Contents c. Applied anatomy (4 + 4 + 2) (10)

22 A 35-year-old woman presents with severe headache, fever and rapidly progressive swelling of her right eye. She reports recent sinusitis. On examination, she has proptosis, ophthalmoplegia and decreased vision in the right eye. MRI reveals a filling defect in the cavernous sinus, confirming a diagnosis of Cavernous Sinus Thrombosis. She is promptly started on intravenous antibiotics and anticoagulation therapy. (10)
1.What is Cavernous Sinus Thrombosis? (1 Mark)
2.Describe the cavernous sinus under the following headings:extent, relations, communications and tributaries (2+2+2+3)

Short Essay Questions 9 X 5 = 45

Answer all the questions.

23 Explain the development of Right Atrium. (5)

24			Describe the Bronchopulmonary segments of Right Lung.	(5)
25			Describe the layers of Scalp and its applied anatomy.	(5)
26			Explain the Microscopic structure of Cornea.	(5)
27			Enumerate the types of Epiphyses with examples.	(5)
28			A patient came with history of engorgement of veins on upper half of body, difficulty in breathing and swallowing. Later he was diagnosed as mediastinal syndrome after investigations. a. Mention subdivisions of mediastinum (1) b. Write boundaries and contents of superior mediastinum (4)	(5)
29			A 35 years old mother was crossing the road along with her 3 year old son. After seeing a speeding car rushing toward them, she suddenly pulled her son away by holding his left hand to avoid the danger of being crushed by the car. The child cried out and later refused to use his left upper limb. The mother took the child to the doctor. A diagnosis of pulled elbow was made. a) What is the pulled elbow? (1 Mark) b) Describe the articular surfaces and movements of elbow joint. (2+2 Marks)	(5)
30			A 52-year-old woman presents to the emergency department with sudden onset of left-sided weakness and slurred speech. She has a history of uncontrolled hypertension. Neurological examination reveals left-sided hemiplegia and facial droop. An MRI of the brain shows an acute infarct in the right internal capsule. a) What is Hemiplegia? (1 Marks) b)Name the parts and fibres passing through the Internal capsule. (4 Marks)	(5)
31			List the major and minor openings of Thoracoabdominal diaphragm.	(5)

Short Answer Questions 3 X 5 = 15

Answer all the questions.

32			Enumerate the derivatives of Meckel's cartilage.	(3)
33			Mention the importance of Dangerous area of face.	(3)
34			Mention the boundaries of third ventricle.	(3)
35			Draw diagram of microscopic structure of Thymus.	(3)
36			Mention any **THREE** responsibilities of a physician to society and community that he or she serves.	(3)

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Exam Date & Time: 25-Sep-2024 (09:30 AM - 12:30 PM)

KLE ACADEMY OF HIGHER EDUCATION AND RESEARCH

Anatomy Paper 2 [ANA2]

Marks: 100 **Duration: 180 mins.**

MCQ 20 X 1 = 20

Answer all the questions. Section Duration: 30 mins

1 All the following structures are present in the right free margin of Lesser Omentum, EXCEPT (1)

1)	Hepatic artery		2)	Bile duct		3)	Inferior vena cava		4)	Portal vein	

2 . Ejaculation of semen is due to stimulation of (1)

1)	Sympathetic nerve		2)	Parasympthetic nerve		3)	Enteric nerve		4)	Somatic nerve	

3 The atypical lumbar vertebra is the (1)

1)	5^{th} lumbar		2)	1^{st} lumbar		3)	3^{rd} lumbar		4)	4^{th} lumbar	

4 The rectus sheath above the costal margin is (1)

1)	Deficient posteriorly		2)	Deficient anteriorly		3)	Reinforced by fascia from intercostal muscles		4)	Thickend by endothoracic fascia	

5 Which of the following is a content of Ischio-rectal fossa ? (1)

1)	Iliohypogastric nerve		2)	Ilioinguinal nerve		3)	Superior rectal artery		4)	Inferior rectal artery	

6 Hartman's pouch is seen in (1)

1)	Liver		2)	Stomach		3)	Gall bladder		4)	Pancreas	

7 Y shaped retinaculum is ------ (1)

1)	Flexor		2)	Peronea		3)	Inferior Extensor		4)	All of the above	

8 Baker's cyst is a clinical condition related to ------ (1)

1)	Femoral triangle		2)	Femoral canal		3)	Adductor canal		4)	Politeal fossa	

9 Popliteal artery is having following number of genicular branches (1)

1)	One		2)	Two		3)	Five		4)	Three	

10 Pulsations of femoral artery can be felt at----- (1)

1)	Mid point of inguinal ligament		2)	Mid inguinal point		3)	Apex of femoral triangle		4)	Femoral sheath	

11 The tibial collateral ligament is degenerated tendon of --------- (1)

1)	Semitendenosus		2)	Semimembranosus		3)	Adductor magnus		4)	Gluteus medius	

12 Uterine tubes are derived from _____ (1)

1)	Mesonephric duct		2)	Paramesonephric duct		3)	Ureteric bud		4)	Primitive urethra	

13 Persistence of Processus vaginalis causes (1)

1)	Hydrocoel		2)	Cryptorchidism		3)	Ectopic testis		4)	Monorchidism	

14 Paradidymis in male is a remnant of (1)

1)	Mesonephric tubules		2)	Mesonephric duct		3)	Primordial germ cells		4)	Gubernaculum	

15 Medullary cells of adrenal gland secretes--- (1)

1)	Mineralocorticoids		2)	Glucocorticoids		3)	Adrenaline and noradrenaline		4)	Sex hormones	

16 Auerbach's plexus is seen in which of the following layer of gastrointestinal tract? (1)

1)	Mucosa		2)	Submucosa		3)	Muscularis externa		4)	Serosa	

17 Macula densa are cells of _____ (1)

1)	Bowman's capsule		2)	Proximal convoluted tubule		3)	Collecting duct		4)	Distal convoluted tubule	

18 The karyotype 47,XXY is seen in (1)

1)	Down's syndrome		2)	Polysomy X		3)	Klinefelter's syndrome		4)	Edward's syndrome	

19 Consanguinity shows a strong association with which pattern of inheritance? (1)

1)	Autosomal dominant		2)	Autosomal recessive		3)	X-linked dominant		4)	X-linked recessive	

20 A Patient came to OPD with pain in abdomen, vomiting and fever. On examination he had tenderness on Mc Burney's point . He was diagnosed with acute appendicitis. The appendicular artery is a branch of which one of these arteries? (1)

1)	Middle colic artery		2)	Right colic artery		3)	Ileocolic artery		4)	Left colic artery	

Long Essay 10 X 2 = 20

Answer all the questions.

21 Describe the ankle joint under the following headings:
a) Articular surfaces b) Ligaments c) Movements d) Applied anatomy. (2 + 2 + 4 + 2) (10)

22 A child came to the Surgery Out Patient Department with bilious vomiting and was diagnosed to have duodenal stenosis on Barium meal . Describe the gross anatomy of duodenum under the following headings.
a) Parts of duodenum with relations (5 marks)
b) Blood supply (3marks)
c) Lymphatic drainage (1 mark)
d) Mention one cause of duodenal narrowing/stenosis (1 mark) (10)

Short Essay Questions 9 X 5 = 45

Answer all the questions.

23 Describe the development of kidneys and write a note on its congenital anomalies. (5)

24 Describe the boundaries and contents of Superficial Perineal Pouch. (5)

25 Describe the bursae around knee joint and mention **TWO** points on its applied anatomy. (5)

26			Describe the origin, insertion, nerve supply and actions of Tibialis anterior muscle.	(5)
27			Classify the Chromosomes based on structure and types.	(5)
28			Explain the microscopic structure of Pancreas.	(5)
29			Explain the microscopic structure of Testis.	(5)
30			Describe the sites and tributaries of veins which take part in Porto-Caval anastomosis.	(5)
31			A male farmer aged 60 years, presented with complaint of swelling in right groin since 1 year. Single swelling initially appeared in right inguinal region, above the groin crease and then extended into the scrotum, initially small and gradually increased in size. Swelling increases in size with cough, straining and lifting of weight. Swelling disappears on lying down position. No history of pain over swelling and no pain abdomen. No history of fever or vomiting. a) What is the most likely cause of the swelling in this case? (1 mark) b) Describe the boundaries and contents of Inguinal canal in male. (4 marks)	(5)

Short Answer Questions 3 X 5 = 15

Answer all the questions.

32			List the contents of Spermatic cord.	(3)
33			Describe the development of urinary bladder and mention **ONE** congenital anomaly.	(3)
34			Enumerate derivatives of Midgut.	(3)
35			Draw diagram of microscopic structure of Ureter.	(3)
36			Mention the role of a human cadaver and biological tissues in medical education.	(3)

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