جامعة تكريت / كلية الطب البيطري

شعبة الدراسات العليا / الامتحان التنافسي

الانسجة والاجنة / ٢٠٢٢ - ٢٠٢٣

(ملاحظة – الاجابة على جميع الاسئلة)

Q 1: Put (T and F) for the following questions(in histology) 25 marks.

1- The digestive system have no submucosa.

2- The epithelial lining of stomach is simple columnar.

3- Serosa is the outer layer of small intestine.

4- The muscles of tongue are the smooth type.

5 - Filiform papillae on the dorsal surface of tongue are less neuromas.

6- Simple cuboidal epithelium is present lining esophagus.

7- Esophagus has no glands in its wall.

8- Gatric glands has only parietal cells secrete HCL.

9- The duodenum has mucosal glands in its submucosa .

10- The whole small intestine has villi

11- The epithelium of duodenum is stratified columnar

12- The jejunum have no villi

13- The portal vein is present in the kidney

14- Teeth are accessory structures of digestive system

15- Henle loop is a part of nephron

16- The alveolar duct is a part of respiratory portion of lung

17- Nasopharynx is the posterior part of the nasal cavity

18- Epiglottis of larynx have no elastic cartilage

19- Taste bud have sensory cells

20- Bronhi are lined by cuboidal cells

21- Ureter is lined by transitional epithelium

22- Pancreas has pancreatic duct connect to the large intestine

23- Goblet cells increase in number in large intestine than small intestine

24- Rectum is a part of small intestine

25- The muscles of urinary bladder are skeletal type

Q2:Put (T and F) for the following quesions(in embryology) 35 marks

1- Embryogenesis, the formation of body structures & organs (organogenesis.
2- Embryonic Period - defined as the time from fertilization to the earliest (primordial) stages of organ development
3- Fertilization: Refers to the union of a haploid oocyte with a haploid spermatozoon to produce a diploid zygote(a single cell capable of developing into a new individual)
4- Sperm (enveloped by a zona pellucida
5- Spermatozoa (several hundred million per ejaculate)
6- Cleavage: This term refers to the series of mitotic divisions by which the large zygote is fractionated into numerous "normal size" cells.
7- Gastrulation: Gastrulation is the morphogenic process that gives rise to three germ layers: ectoderm, mesoderm, and endoderm.
8- A thickened embryonic disc becomes evident at the blastocyst surface, due to cell proliferation of the outer cell mass cells.
9- The notochord is a oval-shaped aggregate of cells located cranial to the primitive streak of the embryo.

10- Neurulation refers to notochord-induced transformation of ectoderm into nervous tissue.

11-The respiratory system consists of the nasal cavity, pharynx, larynx, trachea and lungs.

12- Right and left medial nasal processes fuse to form a secondary palate

13- Conchae (scrolls of thin bone covered by mucosa) arise as cartilaginous ridges from bones of the nasal cavity wall

14- Paranasal sinuses (diverticula of the nasal cavity) develop post natally.

15- These respiratory structures originate as an evagination of endoderm

along the floor of the pharynx.

16- The larynx develops rostrally, where the lumen of the groove retains

communication with the pharynx.

17- The wall of the larynx originates from growth of lateral laryngeal swellings.

18- The swellings border the persistent laryngeal opening (between laryngotracheal groove and the pharynx).

19- The *laryngotracheal tube* grows caudally into splanchnic mesoderm located ventral to the pharynx.

20Lung elongation shifts bronchi caudally into the thorax.

21- Continued branching of the bronchial tree results in lung tissue

22- Some endodermal alveolar cells become cuboidal rather than flat and produce a phospholipid

23- Neural plate—ectodermal cells overlaying the notochord become tall columnar,

24- Neurulation The notochord induces overlaying ectoderm to become neuroectoderm and form a neural tube.

25- Nervous System Formation of neurons and glial cells from neuroepithelium.

26- Some cell divisions are differential, producing neuroblasts

which give rise to neurons or glioblasts

27- Enlargements of spinal cord segments that innervate arme

28- The basal plate gives rise to oculomotor (III) and trochlear

(IV) Nerves which innervate muscles that move the eyes.

29- Forebrain (derived entirely from alar plate)

30- Meninges surround the CNS and the roots of spinal and cranial nerves.

31- Three meningeal layers (dura mater, arachnoid, and pia mater)

32- Fetal Period — the time between the embryonic period and parturition (the end of gestation), during which organs grow and begin to function.

33- Selective follicles mature at each cycle (in response to circulating TSH hormone from the pituitary)

34- Secondary oocytes resume meiosis following ovulation (having been suspended in Meiosis I since before birth by inhibitory secretion of follicle granulosa cells)

35- A morula is a solid ball of blastomeres, within a zona pellucida.

Q 3 : In Histology discuss of the following (short answer).(20 marks)

1- Layers of ureter.

2- Types of salivary glands.

3- Blood-air barrier .

4- Define of the following.

1- nephron 2- tatse buds

Q4 / In comparative anatomy discuss of the following (20 marks)

(Short answer)

1- **List cranial nerves serially.**

2- **Compair between the colon in cow and horse.**

3- **Classified the bones according the Shape , function and structure.**

4- **Enumerat type of muscle in the body and give the charaestrestic featur for each one.**

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جامعة تكريت

Class:M.Sc. Histology and Embryology
Time : 3 hours
Form (1)

Competitive exam for postgraduate students-Master's program (2023-2024)

Note : Answer all following questions

Q1 \\ Mark True (T) or False (F) in front of the following questions ***(15 M.)***

1- The whole lingual papillae are containing taste buds
2- The parotid salivary gland have mucus acini
3- The whole esophageal wall is surrounded by skeletal muscles
4- The Brunner glands are secreting mucus media
5- The cecal mucosa have villi
6- The liver cells could be have two nuclei
7- The exocrine portion of pancreas have duct system
8- The gastric mucosa secretes HCL via main or chief cells
9- The epthelium of tongue is stratified squmaous epithelium
10- Tunica serosa covering the whole small intestine

Q2 \\ Full the following spaces with proper words or statements ***(15 M.)***

1- ..... is the structural and functional units of kidney
2- Tast buds is containing ..... cells
3- Henle loops are present in the ..... of .....
4- The epithelium of ureter is .....
5- The glomeruli of kidney is surrounded by .....
6- The proximal convoluted tubules are lined by .....
7- The distal convoluted tubules are lined by .....
8- The whole kidney is surrounded by .....
9- The renal filterate are collected in the ..... of kidney
10- The type of muscles of urinary bladder is .....

Q3\\ Discuss (3) of the following :- ***(10 M.)***

1- The differences between bronchus and bronchiole
2- The types of the epithelia of the nasal cavity
3- The blood air barrier component
4- The histological structure of trachea

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Q4\\ Answer the following *(5 M.)*

1- Enumerate the parts of pelvic girdle
2- Enumerate the types of muscles in the body and give example for each one
3- Give the number of cervical , thoracic and lumber vertebrae in horse, cow and sheep
4- Classify the bones according the shape

Q5\\ compare between the stomach of horse and the compound stomach of cow *(5 M.)*

Q6\\ List the cranial nerves serially sensory , motor or mixed for each one *(5 M.)*

Q7\\ Circle on the one of best correct answer *(5 M.)*

I- Thoracic limb

a-Consist of three segments.
b-Consist of two segments.
c-Consist of five segments.
d-Not of all.

II- The vertebral column

a-The first cervical vertebrae called axis.
b-The first cervical vertebrae called lumber.
c-The first cervical vertebrae are highly modified.
d-The all cervical vertebrae are highly modified.

III- The skeleton

a-The splanchic skeleton found in all animals.
b-The bone divided according to their shape and function into compact and spongy bone.
c-The skeleton is applied to the framework of the hard structures.
d-The development of bones are two types endochondral and hard ossification.

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فرع التشريح كلية الطب البيطري

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IV-**The vertebral column**

a- The sacral vertebrae are ossified intervertebral disc are firmly fused forming single bone the sacrum in all domestic species.

b- The vertebral column is composed of a series of paired bones.

c- The atlas vertebrae constitute around the axis and thus the head rotates , its cylindrical body .

d- The first and second cervical vertebrae its no modified .

V-The pelvic limb

a- The pelvic limb consist of , pelvic girdle, thigh only

b- The leg comprises one bone.

c- The thigh articulate with ilium directly.

d- The proximal row of tarsal bones consists of two bones.

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Q8\\ Answer the following statements with True (T) Or False (F): (30 Mark).

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3- Fertilization: Refers to the union of a haploid oocyte with a haploid spermatozoon to produce a diploid zygote(a single cell capable of developing into a new individual)

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8- Secondary oocytes resume meiosis following ovulation (having been suspended in Meiosis I since before birth by inhibitory secretion of follicle granulosa cells)

9- A thickened embryonic disc becomes evident at the blastocyst surface, due to cell proliferation

of the inner cell mass cells.

10- Cavitation re-establishes a coelom (hoseshoe-shaped) within the medial mesoderm.

11- In the head region, anterior to the embryonic coelom, mesenchyme between ectoderm and

endoderm forms a series of dorso-ventral arches demarcated by grooves (arch).

12- All cell divisions are differential, producing neuroblasts which give rise to neurons or glioblasts (spongioblasts) which give rise to glial cells (oligodendrogliocytes and astrocytes).

13- The lateral wall of the neural tube is dividedn into one regions (plates).

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14- the alar plate (containing efferent neurons of cranial nerves) is positioned medial to the alar plate and ventral to the fourth ventricle

15- Migration of neuron populations past one another allows connections to be established between neurons of the respective populations. Neurons that fail to connect are destined to degenerate. Connections are made by axons that subsequently elongate as neurons migrate during

16 - Allantois from the outer cell mass, develops as an outgrowth of hindgut splanchnopleure. The allantois grows to fill the entire extra-embryonic coelom, with fluid-filled allantoic cavity.

17 - The inner surface of allantois binds to the inner surface of chorion and the outer surface of amnion. The allantois is highly vascular and provides the functional vessels of the placenta, via um- bilical vessels.

18 - Yolk sac from the inner cell mass, develops early (with hypoblast formation) and is continuous with midgut splanchnopleure.

19- Supplied by vitelline vessels, yolk sac is most important in egg laying vertebrates. It forms an early temporary placenta in the horse and cattle.

20 - Enlargements of spinal nerve segments that innervate limbs.

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Q2 Essay questions the followings (10 marks)

1- Neurulation.

2- Pharyngeal (Branchial) Arches.

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