

Time: 3hours

Marks: 75

N.B: 1. All questions are compulsory.

2. Draw the diagram wherever necessary.

Q I. Choose the correct alternative for the following

20 Marks

1. Which division of the autonomic nervous system is responsible for "fight or flight" responses?

- A. Parasympathetic
- B. Somatic
- C. Enteric
- D. Sympathetic

2. MALT present in lamina propria is _____.

- A. Muscle associated lymphatic tissue
- B. Muscular and lymph tissue
- C. Mucosa associated lymphatic tissue
- D. Mucosa associated lung tissue

3. The correct sequence of different layers of the tracheal wall, from deep to superficial, are _____.

- A. Mucosa, Submucosa, Hyaline cartilage and Adventitia
- B. Adventitia, Mucosa, Submucosa and Hyaline cartilage
- C. Mucosa, Adventitia, , Submucosa and Hyaline cartilage
- D. Hyaline cartilage , Adventitia, Mucosa and Submucosa

4. _____ is the area present between two renal pyramids in the kidney.

- A. Major calyx
- B. Renal Column
- C. Medulla
- D. Hilum

5. In a 28 day female reproductive cycle _____ phase lasts from day 6 to 13.

- A. Menstrual
- B. Post ovulatory
- C. Pre ovulatory
- D. Ovulation

6. _____ is a bundle of axons that is located in the PNS.

- A. Nucleus
- B. Ganglion
- C. Cyton
- D. Nerve

7. Select the lipid soluble hormone from the following
- A. Nitric Oxide
 - B. Adrenaline
 - C. Insulin
 - D. Oxytocin
8. _____ is the process by which the fetus is expelled from the uterus through the vagina.
- A. Implantation
 - B. Parturition
 - C. Gestation
 - D. Embryogenesis
9. _____ is a basic unit of inheritance, controlling a particular trait.
- A. Chromosome
 - B. Gene
 - C. Nucleotide
 - D. DNA
10. _____ is the characteristic movement occurring in the large intestine.
- A. Haustral movement
 - B. Peristaltic movement
 - C. Segmentation
 - D. Migrating motility complex
11. Which hormone contributes to setting the body's biological clock?
- A. Oxytocin
 - B. Aldosterone
 - C. Insulin
 - D. Melatonin
12. The scrotum is separated into lateral portions by a median ridge called the _____.
- A. Dartos
 - B. Cremaster
 - C. Raphe
 - D. Corpora Cavernosa
13. Which of the following works by filtering out and keeping the dirt and mucus away from the lungs?
- A. Bronchioles
 - B. Alveoli
 - C. Cilia
 - D. Trachea

14. _____ generates ATP by transferring a high-energy phosphate group from an intermediate phosphorylated metabolic compound directly to ADP.
 - A. Substrate-level phosphorylation
 - B. Oxidative phosphorylation
 - C. Photophosphorylation
 - D. Autophosphorylation
15. Fertilization of a secondary oocyte by sperm usually occurs in the _____.
 - A. Ampulla
 - B. Infundibulum
 - C. Fimbriae
 - D. Isthmus
16. _____ prevents the entry of food into the windpipe.
 - A. Pharynx
 - B. Larynx
 - C. Alveoli
 - D. Epiglottis
17. Diabetes insipidus is due to defects in receptors for _____ or an inability to secrete it.
 - A. Parathyroid hormone
 - B. Human Growth hormone
 - C. Antidiuretic hormone
 - D. Thyroid stimulating hormone
18. Which of the following neuroglia is present in the peripheral nervous system?
 - A. Satellite cells
 - B. Astrocytes
 - C. Oligodendrocytes
 - D. Ependymal cells
19. _____ is the process of synthesis of proteins from RNA occurring in the ribosomes.
 - A. Translation
 - B. Transcription
 - C. Replication
 - D. Crossing-over
20. Net filtration pressure (NFP), the total pressure that promotes filtration in glomerulus, is determined as _____.
 - A. $NFP = GBHP + CHP + BCOP$
 - B. $NFP = GBHP - CHP - BCOP$
 - C. $NFP = GBHP + CHP - BCOP$
 - D. $NFP = GBHP - CHP + BCOP$

Q II. Answer any **TWO** of the following.

20 Marks

- 1) Explain in detail the anatomy of the cerebrum and add a note on sensory areas of the cerebrum.
- 2) A) Draw a neat labeled diagram of internal anatomy of Kidney.
B) Explain in detail the structure of Lungs.
- 3) Explain in detail the formation and functions of thyroid hormone.

Q III. Answer any **SEVEN** of the following.

35 Marks

- 1) Explain the protective coverings of the brain and write the importance of the blood–brain barrier.
 - 2) Describe the anatomy and histology of the stomach with a neat labeled diagram.
 - 3) Explain the factors affecting oxygen transport in the respiratory system.
 - 4) Explain the mechanisms that regulate glomerular filtration rate.
 - 5) Write a note on regulation of calcitonin and parathyroid hormone secretion.
 - 6) Draw a neat labeled diagram of histology of Ovary.
 - 7) With the help of a neat labeled diagram, explain signal transmission at a chemical synapse in the nervous system.
 - 8) Explain the accessory sex glands of the male reproductive system and give the composition of semen.
 - 9) Explain chemical digestion of carbohydrates, and proteins occurring in the small intestine.
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