Duration: 3 hours **Total Marks: 75 M**

N.B. 1. All questions are compulsory
2. Figures to the right indicate full marks.

Q1. Choose the appropriate option for following multiple choice based questions. 20M

1 Which neuroglial cells function as phagocytes in the CNS?
a Microglia
b Oligodendrocyte
c Ependymal cells
d Astrocytes

2 Each peristaltic wave moves gastric contents from the body of the stomach down into the antrum, by a process known as_____.
a Digestion
b Propulsion
c Retropulsion
d Migrating motility complex

3 Which of the following is the correct pathway through which air travel in the respiratory system?
a Nose, Pharynx, Trachea, Lungs
b Nose, Trachea, Lungs, Pharynx,
c Trachea, Pharynx, Lungs, Nose
d Nose, Trachea, Pharynx, Lungs

4 _____ carries out the conversion of angiotensinogen, which is released by the liver, to angiotensin I
a Aldosterone
b Renin
c Calcitriol
d Erythropoietin

5 _____ is a water soluble amine hormone.
a Testosterone
b Aldosterone
c Epinephrine
d Nitric oxide

6 _____ hormone produced by the placenta during pregnancy is believed to establish the timing of birth.
a Relaxin
b Corticotropin-releasing hormone
c Human placental lactogen
d Progesterone

7 _____ is the motor area of the cerebral cortex.
a Primary auditory area
b Wernicke's area
c Broca's speech area
d Primary gustatory area

8 The _____ regulates the movement of food from the pharynx into the esophagus.
a Pyloric sphincter
b Upper esophageal sphincter
c Lower esophageal sphincter
d Ileocecal sphincter

9 The right and left primary bronchi divides into _____.
a Lobar bronchi
b Segmental bronchi
c Carina
d Terminal bronchioles

10 When _____ cells are relaxed, surface area is maximal and glomerular filtration rate is high.
a Nephron
b Mesangial
c Detrusor
d Juxtaglomerular

11 Which of the following is the action of parathormone in the human body?
a decreases blood sodium level
b increases blood sodium level.
c decreases blood calcium level
d increases blood calcium level

12 _____ refers to the external genitals of the female.
a Mons pubis
b Vulva
c Perineum
d Vestibule

13 _____ lines the uterine cavity and sloughs off during menstruation.
a Perimetrium
b Myometrium
c Stratum functionalis
d Stratum basalis

14 _____ is an inhibitory neurotransmitter.
a GABA
b Aspartate
c Glutamate
d Epinephrine

15 Pancreatic juice is drained in _____ part of the small intestine.
a Duodenum
b Ileum
c Jejunum
d cecum

16 _____performs only respiration functions.
a Nasopharynx
b Oropharynx
c Laryngopharynx
d Esophagus

17 The process of release of sperms from their connections to Sertoli cells, is known as _____.
a Spermiation
b Spermiogenesis
c Capacitation
d Spermatogenesis

18 _____ cells in testes secrete testosterone.
a Sustentecular
b Sertoli
c Leydig
d Primordial germ

19 Glucocorticoids are secreted mainly by _____ cells of adrenal cortex.
a Chromaffin
b Zona glomerulosa
c Zona reticularis
d Zona fasciculata

20 _____ is the site of sperm maturation.
a Vas deferens
b Epididymis
c Rete testis
d Spermatic cord

Q2. Attempt the following (Any TWO). 20M

a. Explain in detail the anatomy of the cerebrum and add a note on sensory areas of the cerebrum.
b. Define pulmonary ventilation, explain in detail inhalation and exhalation and factors affecting pulmonary ventilation.
c. Describe the structure of adrenal cortex and add a note on Glucocorticoids and its regulation.

Q3. Attempt the following (Any SEVEN). 35 M

a. Draw a neat labelled diagram of internal anatomy of spinal cord.
b. Write a note on Diencephalon.
c. Explain in detail functions of the liver.
d. Explain the composition and functions of pancreatic juice.
e. Write a short note on respiratory volume and capacities.
f. With the help of labelled diagram explain internal anatomy of kidney.
g. Explain the roles of calcitonin , parathyroid hormone , and calcitriol in calcium homeostasis.
h. Draw a neat labelled diagram of internal structure of Testes.
i. Describe the process of oogenesis.

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