M.Sc. ZOOLOGY First Semester ANIMAL PHYSIOLOGY & ENDOCRINOLOGY (MSZ – 103)

Duration: 3Hrs.

Full Marks: 70

PART A (Objective) =20 PART-B (Descriptive)=50

PART-B (Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any five of the following questions:

- 1. Describe the mechanism of digestion. Write about the role of digestive enzymes and gastrointestinal hormones in digestion. (5+2+3=10)
- 2. Name the different blood groups and write an account on blood clotting mechanism. How is cardiac cycle regulated in mammals? (2+5+3=10)
- 3. What are aldosterones? Mention the function of mineralocorticoid and glucocorticoid hormones. (2+8=10)
- 4. a) Draw a labeled diagram of the ultra structure of a neuron and state its functions.
- b) With the help of diagrams explain induction of neural impulse through an axon. (5+5=10)
- 5. Describe the ultra structure of nephron with the help of labeled diagram and write its function in the human body. Write the mechanism of urine formation. (5+5=10)
- 6. What are the different types of muscles? Explain muscle fatigue and rigor mortis. Write briefly on molecular mechanism and regulation of muscle contraction.

(2+3+5=10)

- Write an essay on thermoregulation citing few examples. State the differences between aestivation and hibernation. Describe osmoregulation in aquatic animal groups. (3+4+3=10)
- 8. Write an account on biosynthesis and metabolic functions of thyroid hormones.

 Describe feedback system of hormones with the help of examples. (5+5=10)

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Duration: 20 minutes

Marks - 20

PART-A (Objective)

Time: 20 mins

Total Marks: 20

I. Answer the following:

 $1 \times 20 = 20$

1. The oxyntic glands of stomach has all the cells except-

- a) mucous neck cells
- b) peptic cell
- c) oxyntic cells
- d) G cells

2. All are the functions of gall bladder except-

- a) absorption of water
- b) absorption of bicarbonate
- c) storage of bile
- d) secretion of bile salts

3. End products of pancreatic lipase digestion is-

- a) monoglycerides
- b) fatty acids

c) glycerol

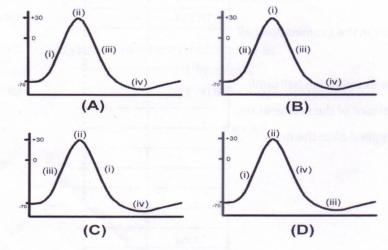
d) all of the above

4. Select the correct graph representing the sequence of changes during the transmission of nerve impulses along the axon. The changes are;

- a) Na+ channel close and K+ channel open
- b) More Na+ channel open

c) More K+ channel open

d) K+ channel close



5. Which of the following pump is responsible for release of neurotransmitters from axon knob?

- b) Na⁺ pump
- a) K⁺ pump c) Ca²⁺ pump
- d) Mg^{2‡} pump

6. Which one of the folloa) Vitamin Kc) Prothrombin	ving is not needed in blood clotting? b) Ca ++ d) Erythrocytes			
7. The sound which is ca contraction, isa) Lubc) Sip	b) Dup	b) Dup d) None of these		
8. The cardiac pacemakea) SA nodec) Bundle of His	b) AV nod	b) AV node d) all of the above		
9. Glomerulus is the parta) Bowman's capsulec) renal tubule		b) renal corpuscle		
a) sodium c) uric acid	b) bicarbond) urea	osorbed by the renal tubules except- nate and activation during the process of digestion of		
List I Phases of secretion		List II Activations		
(i) Cephalic phase in gastric secretion		(a) Acidic and lipid chyme in duodenum.		
(ii) Gastric phase in gastric secretion		(b) Distension of stomach.		
(iii) Intestinal phase in gastric secretion		(c) Tactile sensation in mouth.		

(d) Secretin in the blood.

Select the correct match from the following,

(a) (b) (c) (d) (A) iii ii iv (B) iii iv ii (C) iii i iv (D) iv i ii iii

(iv) Pancreatic ductular secretion

- 12.All are the mixed nerve except
 - a) occulomotor
- b) glossopharyngeal

c) vagus

d) hypoglossal

a) Chronaxie	d by a stimulus of two b) Rheobase d) Polarization	threshold stimuli to excite the nerve.
a) To reabsorb HCO ₃ ⁻ from a b) To secrete HCO ₃ ⁻ in the p c) To secrete Na ⁺ and Cl ⁻ in d) To reabsorb Na ⁺ and Cl ⁻ in	the pancreatic juice. cancreatic juice. the pancreatic juice.	
15. The hormone that stimulatesa) Oxytocinc) Melanocyte Stimulating F		lanophores in skin of vertebrates is- b) Parathormone d) Calcitonin
16.Enlargement of the bones of hormone in adult human is ca) Acromegalyc) Polydactyly		에게 하면 가게 되었다면 하는데 아니는 그 사람들은 그는 이 사람들이 없는데 사람들이 없는데 하는데 하는데 하는데 하는데 하는데 되었다면 하는데
17. Addison's disease is caused a) Glucocortic coids c) Both a & b	due to deficiency of- b) Mineralocorti d) Insulin	icoids
18. Which of the following horna) Estrogenc) Progesterone	nones is a modified am b) Epinephrine d) Prostaglandin	
its deficiency? a) Parathyroid hormone		ion
20. The receptors for thyroxin he a) Cell surface c) Cytoplasm	ormone is located at b) Nucleus d) None of the a	bove
