

**M. Sc. ZOOLOGY**  
**FIRST SEMESTER**  
**ANIMAL PHYSIOLOGY & ENDOCRINOLOGY**  
**MSZ - 103**

**Duration: 3 Hrs.**

**Marks: 70**

**Part : A (Objective) = 20**

**Part : B (Descriptive) = 50**

[ PART-B : Descriptive ]

**Duration: 2 Hrs. 40 Mins.**

**Marks: 50**

*[ Answer question no. One (1) & any four (4) from the rest ]*

1. What do you mean by excretion ? Write down the process of formation of urine in mammals. Support your answer with suitable diagram. 10
2. Mention the universal donor and recipient blood group. What is erythroblastosis foetalis ? Explain blood clotting mechanism. 10
3. Explain the Biosynthesis of Thyroid hormones in Thyroid gland. 10
4. What are Hormones ? Mention the different types of hormones and their characteristics and behavior. 3+7=10
5. Define Respiration. Write about the organs involved in respiration of man. 2+8=10
6. What is heat stress ? Write the hormonal control of thermal stress. 2+8=10
7. Write a brief note of the following: (Select Any two) 5 x 2=10
  - a. Biochemical mechanism of skeleton muscle contraction.
  - b. Mechanism of nerve impulse conduction at synapses.
  - c. Properties and roles of enzymes secreted in gastric gland and pancreas.
8. How does HCL produce in gastric glands ? Describe briefly on the different types of gastric cells and their respective functions. 5+5=10

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**[ PART-A : Objective ]**

Choose the correct answer from the following :

1×20=20

1. Cortisol is secreted from
  - a. Adrenal medulla
  - b. Adrenal cortex: Zona fasciculata
  - c. Adrenal cortex: Zona reticularis
  - d. Adrenal cortex: Zona glomerulus
2. Diabetes insipidus occurs due to deficiency of
  - a. Aldosterone
  - b. Progesterone
  - c. Insulin
  - d. Vasopressin
3. ADH is secreted from
  - a. Hypothalamus
  - b. Posterior lobe of pituitary
  - c. Intermediate lobe of pituitary
  - d. None of the above
4. Enlargement of bones, hands, feet and face due to over secretion of growth hormone is called
  - a. Cushing syndrome
  - b. Acromegaly
  - c. Polydactyly
  - d. None of the above
5. Which gland secretes DHEA?
  - a. Parathyroid
  - b. Posterior lobe of pituitary
  - c. Pituitary
  - d. Adrenal
6. Graves disease is also known as
  - a. Hypothyroidism
  - b. Hyperinsulism
  - c. Parathyria
  - d. Toxic goiter



7. An excessive or abnormal hair growth, particularly male pattern hair growth on a woman is called
  - a. Cretinism
  - b. Addison disease
  - c. Hirsutism
  - d. None of the above
8. If RBC of a person having both A and B antigen, then his plasma will have
  - a. Antibody 'A'
  - b. Antibody 'b'
  - c. Both (A) and (B)
  - d. No antibodies
9. Glucose is excreted in the urine in excess quantities when the function of which one of the following is impaired?
  - a. Bowman's capsule
  - b. Proximal convoluted tube
  - c. Loop of Henle
  - d. Distal convoluted tube
10. *Chordae tendineae* are found in
  - a. Joints of legs
  - b. Atria of heart
  - c. Ventricles of brain
  - d. Ventricles of heart
11. Pulmonary vein carries
  - a. Deoxygenated blood
  - b. Oxygenated blood
  - c. Mixed blood
  - d. None of these
12. Mitral valve is present between
  - a. Right atrium and right ventricle
  - b. Left atrium and left ventricle
  - c. Right and left ventricle
  - d. Right atrium and left atrium
13. As a result of "Bohr effect", oxygen dissociation curve moves to
  - a. Left
  - b. Right
  - c. Straight
  - d. Stay unchanged
14. The hormone involved in osmoregulation in man is
  - a. ADH
  - b. TSH
  - c. ACTH
  - d. GH
15. Shivering is an adaptive device for
  - a. Heat generation
  - b. Heat loss
  - c. Heat exchange
  - d. All of the above
16. Which activity is not applicable for heat gain in the body
  - a. Vasoconstriction
  - b. Vasodilation
  - c. Evaporation
  - d. None of the Above
17. Secretin activates the pancreatic ductular cells in humans
  - a. To reabsorb  $\text{HCO}_3^-$  from the pancreatic juice.
  - b. To secrete  $\text{HCO}_3^-$  in the pancreatic juice.
  - c. To secrete  $\text{Na}^+$  and  $\text{Cl}^-$  in the pancreatic juice.
  - d. To reabsorb  $\text{Na}^+$  and  $\text{Cl}^-$  from the pancreatic juice.
18. Which of the following statement is true for GIP cells on the epithelial wall of intestine?
  - a. Oral glucose stimulates GIP release to activate insulin secretion.
  - b. Intravenous glucose stimulates GIP release to enhance insulin secretion.
  - c. GIP activates oral glucose absorption to enhance blood glucose level.
  - d. GIP cells are not related for the production of insulin.
19. Which part of a neuron has the highest concentration of  $\text{Na}^+$  channels per square millimeter of cell membrane?
  - a. Dendrites.
  - b. Cell body near dendrites.
  - c. Initial segment of axon.
  - d. Node of Ranvier
20. The function of tropomyosin in skeletal muscle includes
  - a. sliding on actin to produce shortening.
  - b. releasing  $\text{Ca}^{2+}$  after initiation of contraction.
  - c. binding to myosin during contraction.
  - d. acting as a "relaxing protein" at rest by covering up the sites where myosin binds to actin.