

2020

ZOOLOGY

[HONOURS]

Paper : XII

Full Marks : 50

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** questions: $2 \times 5 = 10$
- What are podocytes?
 - What is osmoregulator?
 - What are F actin and G actin?
 - What is motor end plate?
 - What is sarcomere?
 - Give two examples of hormone which helps is metamorphosis in insects.
 - What is the source of progesterone in ovary?
 - What is Haldane effect?
2. Answer any **two** questions: $5 \times 2 = 10$
- State the role of haemoglobin in CO_2 transport. What is Bohr's effect? $3 + 2 = 5$
 - What is calmodulin? Describe the role of hormones in calcium metabolism in mammals. $1 + 4 = 5$
 - What is neurotransmitter? Differentiate between voltage gated and ligand gated ion channels. $2 + 3 = 5$
 - Write short notes on:
 - Goitre
 - Mordant $2\frac{1}{2} + 2\frac{1}{2} = 5$
3. Answer any **three** questions: $10 \times 3 = 30$
- Discuss the mechanism of action of peptide hormones. What is glucose intolerance? Differentiate between TYPE I and Type II Diabetes. $5 + 2 + 3 = 10$
 - What is GFR? Describe counter current mechanism of urine formation. Name any two hormone related to urine formation. $2 + 6 + 2 = 10$

- c) What is synaptic transmission? Write down propagation of nerve impulse along the axonfibre. What is hypothalamo-hypophyseal portal system? $2+6+2=10$
- d) Describe the structure of skeletal muscle. Write a short note on muscle contraction. $5+5=10$
- e) What is organ of Corti? How does auditory impulse travel from cochlea to auditory cortex? What are catecholamines? $2+6+2=10$
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