

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. THIRD SEMESTER EXAMINATION, MARCH 2022

SECOND YEAR [BATCH 2020-23]

ZOOLOGY (GENERAL)

PAPER : III

Date : 09/03/2022

Time : 11 am – 1 pm

Full Marks : 50

Answer all the questions:

Group A

1. a) State the sequential phenomena related to synaptic transmission.
b) Differentiate between osmoregulator and osmoconformer.
c) Define micturition. (2+2+1)
2. a) How does ctenidium help in respiration?
b) Add a note on hormonal feedback loop system.
c) Give two identifying characters of the phylum Ctenophora. (2+2+1)
3. a) Define all-or-none phenomena and refractory period.
b) Add a note on renal counter current mechanism.
c) What is the significance of the conjugation in *Paramecium*? (2+2+1)

Group B

4. a) What is Bombay phenotype?
b) Classify insects based on their metamorphosis and differentiate them with proper examples. (2+3)
5. a) What is the role of sarcoplasmic reticulum?
b) What is platelet plug?
c) Explain briefly how ATP helps in muscle contraction. (1+1+3)
6. a) Provide a brief account of the water vascular system in *Asterias* sp.
b) Differentiate between metamerism and pseudo-metamerism with examples. (3+2)

Group C

7. a) State the functions of follicular cells and parafollicular cells in thyroid gland.
b) Draw a labelled diagram of Graafian follicle.
c) What is the role of Sertoli's cells? (1+2+2)
8. Illustrate the mechanism of excretion in cockroach with a proper diagram. (3+2)

Group D

9. a) Mention how *Labyrinthula* procures its nutrition.
b) In sponges, why the choanocytes are named so?
c) State how contractile vacuoles facilitate the nutrition in a protozoan cell. (2+1+2)
10. a) Distinguish between Mitotic Fission and Plasmotomy found in protists (Add Figure).
b) What is metachronal wave? [(2+1)+2]

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