

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FIRST SEMESTER EXAMINATION, DECEMBER 2018

FIRST YEAR [BATCH 2018-21]

ZOOLOGY [General]

Paper : I

Date : 21/12/2018

Time : 11 am – 1 pm

Full Marks : 50

[Use a separate Answer Book for each Group]

Group – A

1. Answer **any five** questions: [5 × 2]
 - a) What is clitellum?
 - b) What are lobopodia and filopodia?
 - c) Distinguish between polyp and medusa.
 - d) Why cockroach is called as hemimetabolous insect?
 - e) What are 'live flukes' and 'blood flukes'? Mention their systemic positions.
 - f) What is Aristotle's lantern? Where it is found?
 - g) Name the excretory organs of cockroach & earthworm.
 - h) Mention the function of Cnidoblast cell. Where are they found?

2. Answer **any two** questions: [2 × 2½]
 - a) '*Pila* is an amphibious animal' — Discuss.
 - b) Enumerate the general characteristics of phylum annelida.
 - c) Write the distinguishing features of copepods with an example.
 - d) Compare between protostomes and deuterostomes.
 - e) Distinguish between commissure & connective. Give example of each.

3. Answer **any two** questions: [2 × 5]
 - a) Describe the structure of ctenidia and mention its role in aquatic respiration of apple snail. [3+2]
 - b) What is taenidia? Describe the role of alary muscle in the circulation of cockroach. [2+3]
 - c) Draw and describe the structure of Flame Cell. [2+3]
 - d) Mention the role of cilia in the locomotion of Paramoecium. Mention the sliding interaction between actin and myosin in amoeboid locomotion. [3+2]
 - e) What is ommatidium? Name different mechanoreceptors found in insects and mention one role of each. [1+4]

Group – B

4. Answer **any five** questions: [5 × 2]
- a) What is protoncogene? Give an example. [1+1]
 - b) What is hnRNA?
 - c) What are proteronopia and deuteronopia? [1+1]
 - d) Write down four important characteristics of autosomal recessive inheritance.
 - e) What do you mean by gynandromorphs?
 - f) Mention the functions of Lysosome.
 - g) Mention the cause of α Thalassemia.
 - h) Enumerate the components and functions of Primsome.
5. Answer **any two** questions: [2 × 2½]
- a) Why synthesis of DNA is discontinuous on the lagging strand.
 - b) Compare between A,B and Z DNA.
 - c) Mention the clinical findings of Down syndrome & Turner Syndrome.
 - d) Describe the fluid mosaic model of Singer and Nicolson.
 - e) Compare between RER and SER.
6. Answer **any two** questions: [2 × 5]
- a) Describe Rho dependent & Rho independent transcription termination. [3+2]
 - b) Define Linkage. Differentiate between incomplete and complete linkage. With the help of a chart name the types of chromosomal aberration? [1+1+3]
 - c) Draw & describe solenoid model of nucleosome. [5]
 - d) Describe the secretory function of Golgi apparatus. Mention the role of Endoplasmic Reticulum in detoxification and steroid metabolism. [2+3]
 - f) Explain the role of 'tdf' and 'sry' in the sex determination of men. What is meant by "Genic balance"? [3+2]

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