

Set I
IRC-I (Zoology)

Full Marks :75

Time: 3 hrs

Answer the following question as per instruction mentioned.

Respective marks are given in parentheses on right side.

Candidates are advised to give answer in their own words where group A is compulsory and any four from the group B as far as practicable.

Group A
Short answer type (Compulsory)

1 Answer the following as per instructions (5X1)

- a. Name one animal and its phylum with radial symmetry, diploblastic and tissue organizations.
 - b. Define digital library
 - c. Differentiate nucleoid and nucleus with one point
 - d. Excretory products and organelle involved in paramecium
 - e. Name Building blocks of protein and lipid
- 2 . Write notes on host parasitic association with one example (5)
3. Briefly explain magnification and resolving power of microscope. (5)

Group B
(Long /Descriptive answer)

4. Mention the basic characters for classifying animal kingdom with unique and prominent characters of each phylum and examples (15)
5. Give an account of different branches of Zoology and their importance (15)
6. Define ecology. Describe some interspecific ecological interaction with their examples. (5+10)
7. Draw a well labeled diagram of typical animal cell observed under electron microscope and describe the basic structure and function of different cell organelles (5+10)
8. Give an account of at least two economically important animals. (7.5X2)

Set I
MJ-I (Zoology)

Full Marks :60

Time: 3 hrs

Answer the following question as per instruction mentioned.

Respective marks are given in parentheses on right side.

Candidates are advised to give answer in their own words where group A is compulsory and three from the group B selecting one from each unit .

Group A
(Compulsory)

1. Give answer as per instruction 1X5=5
 - a. incurrent and ex-current opening of spongocoel in sycon
 - b. one unique and distinct feature of ctenophora and cnidaria
 - c. Conjugants formation in paramecium
 - d. Stone canal purpose
 - e. Name of Commonest larvae of crustacean
2. What is torsion and detorsion (5)
3. What is metagenesis in obelia? (5)

Group B.

Unit I

2. Mention the general characters of phylum protozoa and classify upto class with distinct characters and examples. 5+10
3. State the salient features of phylum arthropoda and give its classification up to class along with important characters of each class and suitable examples

Unit II

4. What are types of canal system in Porifera?. Give their distribution and describe the Sycon type canal system with suitable diagrams.
5. Which group of animal forms coral reef ? Give an account of types, distribution and their formation
6. Describe the parasitic adaption in helminthes.

Unit III

7. Define metamerism .Describe the structural organization of segmental organs in annelids
8. With suitable and labeled diagram explain the different component of water vascular system in asterias and its function.

Set II
IRC-I (Zoology)

Full Marks :75

Time: 3 hrs

Answer the following question as per instruction mentioned.

Respective marks are given in parentheses on right side.

Candidates are advised to give answer in their own words where group A is compulsory and any four from the group B as far as practicable.

Group A
Short answer type (Compulsory)

1 Answer the following as per instructions (5X1)

- a. Explain, why mitochondria energy is called transducer (one sentence answer)
- b. Number of mitotic division required to produce 100 daughter cells
- c. Unique difference between RNA and DNA
- d. Scientific name of honey and lac producing insect
- e. Name one Preservatives for museum specimens

2. Differentiate primary & secondary data (5)

3. Mention abiotic & biotic factors of a pond ecosystem (5)

Group B

3. Differentiate monogenetic & Digenetic parasites. Describe the life cycle and pathogenicity of any one monogenetic parasites (5+10)

4. What are carbohydrates? Classify carbohydrates with examples and their clinical importance. (5+10)

5. What are the major difference between non chordate and chordate. Give an account of general characters used in classification of animal kingdom up to phylum with examples (5+10)

6. Describe the different karyo-kinetic phases of mitosis with well labeled diagram. How it differs from meiosis? (10+5)

7 Name two species exploited in sericulture and describe the techniques and its economic importance. (5+10)

8. Describe the principle, construction, working and importance of colorimeter (15)

9 write short notes on any two (7.5X2)

- a. Measures of central tendency
- b. tissues processing
- c. central dogma of molecular biology
- d. contribution of Mendel

Answer the following question as per instruction mentioned.

Respective marks are given in parentheses on right side.

Candidates are advised to give answer in their own words where group A is compulsory and three from the group B selecting one from each 7unit.

**Group A
(Compulsory)**

1. Give answer as per instruction 1X5=5
 - a. Name one parasitic protozoa with locomotors and without locomotors organelles
 - b. Name Coelenterates with polymorphic organizations
 - c. Name Acoelomate with dorso-ventrally and monogamous parasite
 - d. Name Nephridia located behind 15th segment in earthworm
 - e. Name the larvae that emerge from egg in squilla.

2. Fill correct words 1X5=5
 - a. Corals belong to class
 - b. Water quality in pila is tasted by
 - c. symmetry is lost due to torsion.
 - d. Diploid polyp alternates with in life cycle of obelia
 - e. Ambulacral system terminates with

3. Differentiate exo & entero nephridia. 05

Group B.

Unit I

2. Mention the general characters of phylum porifera and classify upto class with distinct characters and examples. 15

3. State the salient features of phylum Annelida and give its classification up to class along with important characters of each class and suitable examples 15

Unit II

4. What is metagenesis .describe the life cycle of obelia in details with a Labeled diagrams 5+10

5. Which group of animal forms coral reef? Give an account of types, distribution and their formation 5+10

Unit III

6. Give an account of larval forms of crustacean and its evolutionary significance 15

7. What do you mean by torsion and detorsion. Describe the mechanisms and consequences of this events 5+10

8. Write notes on any two 7.5X2=15
 - a. Septal nephridia
 - b. Madreporite
 - c. osphardaium
 - d Nauplius larva