

SECTION A

Multiple Choice Questions

[14 X 1 =14]

1. Ciliated protozoan is:

- (1) *Paramecium*
- (2) *Plasmodium*
- (3) *Trypanosoma*
- (4) *Entamoeba*

2. Choose the correct statement.

- (a) Four kingdom classification system was proposed by Carl Woese.
- (b) First formed organisms were neither plants nor animals.
- (c) All members of Kingdom Plantae are autotrophs without any exception.
- (d) A central vacuole and a centrosome is always present in animal cell.

3. Cyanobacteria are kept in Kingdom Monera and not in Kingdom Plantae because

- (i) they are prokaryotes
 - (ii) the cell wall of cyanobacteria has peptidoglycan
 - (iii) they can fix atmospheric nitrogen.
- (a) (i) and (ii) only (b) (ii) and (iii) only (c) (i) and (iii) only (d) (i), (ii) and (iii)

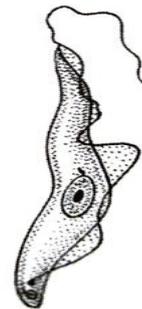
4. To which group the given organism belongs?

- (a) Euglenoids of Protista
- (b) Dinoflagellates of Protista
- (c) Methanogens of Monera
- (d) Halophiles of Monera



5. Refer to the given figure and select the correct option regarding it.

- I. This organism is responsible for red tide in sea.
 - II. It shows mixotrophic nutrition.
 - III. It causes sleeping sickness in humans.
 - IV. It possesses trichocyst and nematocyst defence.
 - V. It is a flagellated protozoan that lacks mouth and contractile vacuole.
 - VI. It is known as " Grand old man of intestine".
- (a) I, III, IV and V (b) II, IV, V and VI
(c) II, III and IV only (d) III and V only



6. Match the columns and choose the correct option.

| Column I | Column II |
|---------------------|---------------------------|
| A. Euglenoids | (i) Red tide |
| B. <i>Gonyaulax</i> | (ii) Saprophytes |
| C. Chrysophytes | (iii) Stagnant freshwater |
| D. Slime moulds | (iv) Golden algae |



- (1) (A) - (ii), (B) - (i), (C) - (iv), (D) - (iii)
- (2) (A) - (iii), (B) - (iv), (C) - (i), (D) - (ii)
- (3) (A) - (iii), (B) - (i), (C) - (iv), (D) - (ii)
- (4) (A) - (ii), (B) - (iii), (C) - (i), (D) - (iv)

7. Select a correct statement w.r.t. dikaryotic phase in fungi:

- (1) It comes after meiosis in asexual reproduction.
- (2) It is present in the vegetative phase of sac fungi.
- (3) It occurs in the life cycle of members of class phycomycetes only.
- (4) It occurs when karyogamy is delayed.

8. White spots seen on mustard leaves are due to a fungal disease caused by

- (1) *Puccinia*
- (2) *Albugo*
- (3) *Synchytrium*
- (4) *Rhizopus*

9. How many of the following statements are correct w.r.t. virus?

- a. They are obligate intracellular parasites.
 - b. They are inert outside their specific host.
 - c. Virus can be crystallized.
 - d. No virus contains either DNA or RNA.
 - f. The protein coat called capsid is made up of small subunits.
- (1) Five
 - (2) Four
 - (3) Three
 - (4) Two

10. Given below are features of members of kingdom Animalia:

- i. Most forms are capable of locomotion.
- ii. They digest their food in an internal cavity.
- iii. Show sexual reproduction by copulation of male and female followed by embryological development.
- iv. Reserve food material is similar to plants.
- v. Higher and lower forms show elaborate sensory and neuromotor mechanisms.

How many statements given above are correct?

- (1) Three
- (2) Four
- (3) Two
- (4) Five

11. Match the following columns and choose the correct option.

| Column I | Column II |
|--|---------------|
| 1. Fungi that depend on living plants and animals | a. Karyogamy |
| 2. Fungi in association with algae | b. Lichens |
| 3. Fungi in association with root of higher plants | c. Parasites |
| 4. Fusion of two nuclei | d. Mycorrhiza |



- (1) 1 - c, 2 - d, 3 - b, 4 - a
 (2) 1 - d, 2 - b, 3 - c, 4 - a
 (3) 1 - c, 2 - b, 3 - d, 4 - a
 (4) 1 - a, 2 - b, 3 - c, 4 - d

12. Where does meiosis occur in mushrooms?

- (1) Ascus
 (2) Basidium
 (3) Ascus mother cell
 (4) Zygosporangium

13. Consider the following statements and state true (T) and false (F):

- (A) Bacteria cannot live in snow and deep oceans.
 (B) Halophiles are found in marshy habitat and are nutritionally autotrophs.
 (C) Under unfavourable conditions, bacteria produce several types of spores.
 (D) Bacteria show autotrophic and heterotrophic nutrition.

| | A | B | C | D |
|-----|---|---|---|---|
| (1) | T | F | F | T |
| (2) | F | F | F | T |
| (3) | F | F | T | T |
| (4) | T | T | F | F |

- 14. Statement I:** They have a cavity (gullet) that opens to the outside of the cell surface.
Statement II: The coordinated movement of rows of cilia causes the water laden with food to be steered into the gullet.
- (1) Statement I is true, but statement II is false.
 (2) Both statement I and statement II are false.
 (3) Both statement I and statement II are true.
 (4) Statement I is false, but statement II is true.

SECTION – B

[2X4= 8]

- 15.** Raashi on an expedition found a multicellular eukaryotic heterotrophic organism with a non-cellulosic cell wall. To which kingdom according to Whittaker, she should place this organism? Also classify it.
- 16.** Give the outline of Six kingdom classification system.
- 17.** Name the group of monerans which lack a cell wall & also mention other characteristics.
- 18.** Write short note on Prions.

SECTION-C

[3X 3= 9]

- 19.** Describe briefly the four major groups of protozoa.
- 20.** Give a comparative account of classes of Kingdom fungi on the basis of mode of reproduction.

21. List the characteristics of Kingdom Animalia.

SECTION-D

[1X5= 5]

22. (i) Smut & Rust fungi belongs to which class ? Mention the causal organism of Smut & Rust.
(ii) Which fungi class is also called 'Fungi Imperfecti' & Why ?

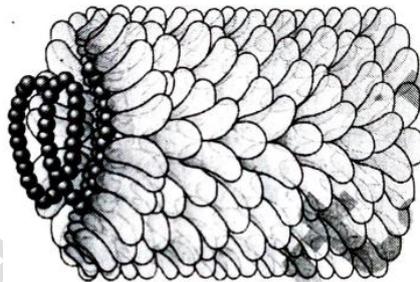
CASE STUDY

[1X4= 4]

23. The viruses are ultramicroscopic, highly infectious agents and non-cellular organisms characterized by having an inert crystalline structure outside the living cell. Once they infect a cell they take over the machinery of the host cell to replicate themselves, killing the host. Viruses contain **capsid**, the proteinaceous covering and genetic material, that could be either DNA or RNA. Viruses that infect plants generally have single stranded RNA while those that infect animals have either single or double stranded RNA or double stranded DNA. Bacteriophages are usually double stranded DNA viruses.

Based on above case answer the following questions-

A. Identify the figure and select the incorrect statement:



- (1) Capsomere are arranged in helical form.
- (2) Passes non-infectious RNA.
- (3) Crystals consist largely of proteins.
- (4) It is the first virus to be discovered.

B. Assertion (A): Viruses are obligate parasites.

Reason (R): No virus contains both RNA and DNA.

- (1) Both A and R are true, and R is the correct explanation of A
- (2) Both A and R are true, and R is not the correct explanation of A
- (3) A is true but R is false
- (4) Both A and R are false

C. Which of the following symptoms is not related to viral infection in plants?

- (1) Mosaic formation
- (2) Wilting and tissue death



- (3) Leaf rolling and leaf curling
- (4) Yellowing and vein clearing

D. Draw well labelled diagram of Bacteriophage.

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