



Karanjia Auto College, Karanjia, Mayurbhanj,

First semester,CC-1:

Microbiology and Phycology

Unit-1:

1.OBJECTIVE QUESTIONS (1 marks)

1. Viruses are made of _____.
2. Viruses attacking blue green algae are called as _____.
3. Viruses was 1st isolated by _____.
4. In TMV the genetic material is _____.
5. Viruses are _____ parasites.
6. In bacteriophage the genetic material is _____.
7. Naked proteinaceous infective particle are called _____.
8. Phages showing lysogeny are called _____ phages.
9. The time period from infection until lysis is called _____ period.
10. Naked RNA having infectious property called _____.
11. The number of capsomeres present in TMV is _____.
12. The length of Tail fiber is _____.
13. The length and width of TMV is _____.
14. The enzyme present in the core tube of bacterio phage is _____.

15. In HIV the genetic material is _____.
16. The virus in which double stranded RNA is found in _____.
17. The virus in which single stranded DNA is found is _____.
18. Mad Cow disease is caused by _____.
19. _____ is the connecting link between living and non-living.
20. Phycophages are the virus attacking _____.

2. Answer within 1 to 2 sentences (1.5 marks)

1. What is ecliptic period?
2. Write the 4 plant diseases caused by virus?
3. What are viroid and priors?
4. What is burst size?
5. What is monoauxic growth?
6. What is diauxic growth?
7. What is synchronous growth?
8. What is lysogeny?

3. Answer within 75 words (2 marks)

1. Write 3 to 4 important characteristics of viruses?
2. Briefly describe the structure of TMV?
3. Briefly describe the structure of Bacteriophage?
4. Write the general structure of Viroid?
5. Write the general structure of Prion?

4. Answer within 500 words (6 marks)

1. Describe the lytic life cycle of bacteriophage?
2. Describe the Economic importance of virus with reference to medicine and role in research?

Unit:-2(a)

1.OBJECTIVE QUESTIONS (1 marks)

1. Salt loving bacteria are called _____.
2. _____ is called Wall less bacteria.
3. _____ is called Jokers of Plant Kingdom.
4. _____ is the smallest cell.
5. _____ is the common method and reproduction in Bacteria.
6. _____ is the organ of perennation in Bacteria.
7. _____ in the organ of respiration in Bacteria.
8. In Bacteria Asexual reproduction mostly occur through the production of _____.
9. In Bacteria Genetic recombination occur through _____, _____ and _____.
10. Bacterial Transformation was discovered by _____.
11. Bacterial cell wall is made of _____.
12. Extra chromosomal small pieces of circular DNA having the capacity of self independent replication found in the Bacterial cell called _____.
13. Pilli is made up of a protein called _____.
14. The protein present in Bacterial Flagella is called _____.
15. Antibiotic resistance genes are located in _____.
16. The Bacteria having F-plasmids are called _____.
17. The Bacteria that converts Ammonia to Nitrate is called _____.
18. The bacteria that convert Nitrite and Nitrate is called _____.
19. $F^+ \times F^- =$ _____.

20. The transfer of DNA from one bacterium to another without coming close in contact with each other is called _____.

21. Specialized transduction is shown by _____ Phage.

2. Answer within 1 to 2 sentences (1.5 marks)

1. What is Transduction?

2. Write briefly about bacterial genome?

3. What is sphaeroplast?

4. What are Thermoacidophiles?

5. What are Methanogens?

6. What is genetic recombination? How it occurs?

3. Answer within 75 words (2 marks)

1. Write a Brief note on Mycoplasma?

2. What is archaea bacteria? What are its different types?

3. Write short notes on Bacterial Cell wall?

4. Mentions the steps of Grayfish Experiment?

5. Briefly describe Binary fission?

4. Answer within 500 words (6 marks)

1. Describe the structure of Bacterial Cell?

2. Describe the nutritional types in Bacteria?

3. Describe the reproduction in Bacteria?

4. Describe the process of Genetic Recombination in Bacteria?

Unit-2(b)

(1) Fill in the blanks

[1X8=8]

1.. _____ is known as father of Indian Algology.

2. Nostoc belongs to class _____.
3. specialized thick walled photo-synthetically inactive cells found in cyanophycean member called _____.
4. Reproduction in Nostoc is only by _____ method.
5. Intercalary hetero-cysts are found in each _____ of Nostoc.
6. Nostoc is helpful in fixing atmospheric _____.
7. Nostoc have been reported from India by scientist _____.
8. The protoplasmic structure found in cyanobacteria is distinguished to central centropiasm and a peripheral _____.

Q.2 write short notes {one to two sentences} [1.5X8=12]

1. chromoplasm
2. Heterocysts
3. Hormogones
4. Akinates
5. Hair vegetable
6. Nostoc colony
7. centropiasm

(3) Answer the following {75 words} [2X8=16]

1. cell wall of cyanophycean cell
2. Pigments in cyanophycean
3. Role of blue green algae in biotechnology
4. cyanotoxin
5. Functions of Heterocysts
6. position of heterocysts
7. c-phycoyanin

(4) Answer the following questions {500 words} [6x4=24]

1. Discuss the salient features of class cyanophyceae?
2. Give an account of economic importance of blue green algae?
3. Describe the life history of Nostoc?

4. Give an account of the cell structure of a cyanophycean cell?

Unit-3

1.Fill in the blanks (1×8)

1. _____ is the advanced type of sexual reproduction in algae .
2. Agar agar is produced by certain _____ algae.
3. According to R.E .Lee Algae is classified into _____ distinct groups.
4. Motile colonial forms of thallus sometimes remain in a common association forming a colony _____.
5. Palmelloid stage is seen in vaucheria algae . {correct if any error} 6.
In _____ only one mitochondrion per cell is seen micromonas.
7. The major storage substance in algal cell is _____.
8. When trichomes break into small pieces of two or more cells called _____.
9. Gongrosira stage is seen in _____ algae.
10. Iodine is produced from kelps in _____ algae.

Q.2 write short notes {one to two sentences } [1.5 X8=12]

1. Distinguish character of chlorophyceae.
2. Algae as food.
3. Role of algae in sewage disposed.
4. Why the water surface gives froth or foam like appearance.
5. What is the reason to grow algae in sewage pond.
6. Distinguish between isogamy and oogamy.
7. Write about siphonaceous thallus of algae in brief.
8. What is the most common method of asexual reproduction .
9. Write note on pigments in algae.

10. Role of algae in nitrogen fixation .

(3) write short notes {75 words } [2X8=16]

- a. Zoospore b. prokaryotic algae
- b. c. unicellular motile thallus
- d. Uniaxial thallus e. Heterotrichous habit f. Akinates
- g. Algae habitat h. coenobium i. Isogamy j. Aplanospore

(4) Answer the following questions { 500 words } [4x6=24]

Describe different type of thalli found in algae ?

Give an account in economic importance of algae ?

Describe the major classification of algae ?

Write the methods of asexual reproduction in algae?

Unit-3 (b)

1. Fill in the blanks (1 mark each)

- a) The colony of volvox is formed as _____
- b) The female gametangia of volvox are known as _____
- c) Cap cells are characteristics of _____
- d) The shape of chloroplast in oedogonium is _____
- e) _____ algae is having siphonaceous thallus
- f) Fusion of two similar gametes is called _____
- g) Thick walled vegetative cell rich in food materials are known as _____
- h) All unicellular algae have one photosynthetic pigment in common. It is _____

Q2. Short Answer type : - Answer the questions 2-3 sentences a)

What are whiplash flagella?

- b) What is the most advanced type of sexual reproduction in algae?
- c) What is the composition of cell wall in green algae?
- d) Name an order of class chlorophyceae that shows Coenobia?
- e) Name one species of chlamydomonas which show anisogamy?
- f) What are agglutinins?
- g) Differentiate between aplanospore & hypnospore?

h) in which alga is found plakea stage?

Q3. Short Answer type : - Answer the questions within 75 words

- a) Cellwall in Algae
- b) Zoospores
- c) Lee's system of algal classification
- d) Algae classification by Fritsch
- e) Algae in industry
- f) Akinetes
- g) Heterocyst
- h) Algae as food & fodder

Q4. Long Answer type : - Answer the questions within 500 words

- a) Give an account of classification of Algae?
- b) Describe the sexual reproduction in eukaryotic algae?
- c) What do you mean by life cycle? Discuss different types of life cycle found in algae?
- d) Discuss the Various economic uses of algae?
- e) Give a note on the contribution of famous Indian phycologists?
- f) Discuss the sexual reproduction in oedogonium?
- g) Give an account of thallus organization and reproduction of volvox?
- h) Write the life history of chlamydomonas?

Unit-4

Q1. Fill in the blanks (1 mark each)

- a) The dominant pigment that is seen in the chromatophores of vaucheria is _____
- b) The zoospore of vaucheria is called _____
- c) The Oogonium of chara is also known as _____
- d) Globule of chara is made up of _____ number of shield cells.
- e) In Ectocarpus the type of growth restricted to the base of a branch is called _____
- f) In Ectocarpus the zoospore produced in unicellular sporangia produce _____ thalli
- g) In focus, the reserve food material is _____
- h) The female reproductive structure in polysiphonia is called ____ **Q2.**

Short Answer type : Answer the questions 2-3 sentences a) **In** which algae gongosira stage is found?

- b) Name the structure which is formed at the site of wanderplasm in vaucheria thallus?

- c) What type of life cycle is met in chara?
- d) How many tube cells are present in the nucule of chara?
- e) In Ectocarpus what is the role of diploid zoospores?
- f) What are Cryptoblasts?
- g) What is the function of medulla in Fucus thallus?
- h) What is the name of the fruiting body of Polysiphonia? **Q3. Short Answer type : Answer the questions within 75 words** a) Globule b) Nucule

- c) Sex organs in vaucheria
- d) Zoospore formation in vaucheria
- e) Plurilocular Sporangia
- f) Unilocular Sporangia
- g) Carposporophyte
- h) Tetrasporophyte

Q4. Long Answer type : - Answer the questions within 500 words a)

Give an account of thallus organization in chara?

- b) Describe sexual reproduction in chara?
- c) Give an account of the structure and reproduction in vaucheria
- d) Discuss the life history of focus?
- e) Discuss the sexual reproduction in Fucus?
- f) Give an account of sexual reproduction in polysiphonia?
- g) Discuss the life cycle of polysiphonia?
- h) Give an account of the thallus organization in polysiphonia?