

Answer in a word :

- 9 Conversion of fixed form of Nitrogen to molecular Nitrogen is called :
- 10 The protein coat present in the viruses :
- 11 Virus that attack bacteria are called :
- 12 Citrus canker is caused by :

(12 x $\frac{1}{4}$ = 3 weightage)

II. Short answer Questions. (Answer all *nine* questions)

- 13 What is **cyphellae** ?
- 14 Define **stroma**.
- 15 What are the different control measures of plant pathogens ?
- 16 Briefly explain the structure of **TMV**.
- 17 What are the main characteristics of viruses ?
- 18 Write the differences between **viroids** and **prions**.
- 19 Describe how algae can be used as pollution indicators.
- 20 Explain range of **thallus** structure in **chlorophyceae** with a special mention on the variation of **chloroplast** in **chlorophyceae**.
- 21 **Auxospores**.

(9 x 1 = 9 weightage)

III. Short essay Questions. Answer any *five* questions :

- 22 Give an account on different types of bacterial pure culture techniques.
- 23 Structure of mature **basidiocarp** in **Agaricus**.
- 24 Describe about symbiotic and non- symbiotic Nitrogen fixation.
- 25 Give an account on black rust of wheat.
- 26 Bring out the structure of female sex organ in **Chara**.
- 27 Explain **nannandrous** type of sexual reproduction in **oedogonium**.
- 28 Reproduction in lichens.

(5 x 2 = 10 weightage)

IV. Essay questions. Answer any *two* questions :

- 29 What are the economic importances of bacteria ?
- 30 Give an account on economic importance of fungi.
- 31 The life cycle of **Polysiphonia** is **diplobiontic** type, explain the statement with illustration.

(2 x 4 = 8 weightage)