

**B.Sc. (Part-I) (Semester-I) Examination
BOTANY**

Diversity & Applications of Microbes and Cryptogams

Time : Three Hours]

[Maximum Marks : 80

Note :— (1) There are seven questions in all.

(2) Q. No. 1 is compulsory and carries 8 marks.

(3) Q. Nos. 2-7 carry equal marks.

(4) Draw neat and well labelled diagrams wherever necessary.

1. (A) Fill in the blanks :

(i) Microorganism which grows on dead and decaying organic matter is known as _____ ½(ii) The air bladders are present in _____ algae. ½(iii) White rust of crucifer is caused by _____. ½(iv) Gemma cup is found in _____. ½

(B) Choose the correct alternatives (MCQ) :

(v) Male Sex Organ in *Chara* is known as :

- | | | |
|-------------|-----------------|---|
| (a) Nucule | (b) Spermatium | |
| (c) Globule | (d) Carpogonium | ½ |

(vi) Teleutospores in *Puccinia* are _____.

- | | | |
|------------------|-----------------|---|
| (a) One celled | (b) Two celled | |
| (c) Three celled | (d) Four celled | ½ |

(vii) The spore producing organ in *Equisetum* is :

- | | | |
|---------------|-------------------|---|
| (a) Sporocarp | (b) Strobilus | |
| (c) Synangium | (d) Zoosporangium | ½ |

(viii) AIDS disease is caused by _____.

- | | | |
|--------------|-----------|---|
| (a) HIV | (b) TMV | |
| (c) Bacteria | (d) Fungi | ½ |

(C) Answer in one sentence :

(ix) What is Fertilization ? 1(x) Which Fungus causes Tikka Disease of Groundnut ? 1(xi) What is Protosteles ? 1(xii) What are Lichens ? 1

2. Explain :

(a) General characters of Cryptogams. 4(b) Structure of TMV. 4(c) Role of microbes in Agriculture. 4**OR**

- (d) Cell structure of Bacteria 4
 (e) Autotrophic Bacteria 4
 (f) Role of microbes in medicine. 4
 3. Describe in detail structure of Thallus and Asexual Reproduction in *Oedogonium*. 12

OR

Explain :

- (g) Thallus structure in *Sargassum* 6
 (h) Sex Organs in *Chara* 6
 4. Explain :
 (i) Sex Organs in *Albugo* 4
 (j) Telial stage in *Puccinia* 4
 (k) General characters of Deuteromycotina 4

OR

- (l) Asexual Reproduction in *Aspergillus* 4
 (m) Uredial stage in *Puccinia* 4
 (n) Economic importance of Lichens. 4
 5. Explain :
 (o) L.S. of Antheridiophore of *Marchantia* 6
 (p) L.S. of Capsule in *Funaria* 6

OR

- (q) L.S. of Antheridial branch in *Funaria* 6
 (r) L.S. Sporophyte of *Marchantia* 6
 6. Explain :
 (s) Types of Siphonostele in Pteridophytes 4
 (t) L.S. of Strobilus in *Equisetum* 4
 (u) T.S. of *Marsilea* Petiole 4

OR

Draw well labelled diagrams only :

- (v) T.S. Aerial Stem of *Equisetum* (Internode) 4
 (w) T.S. Rhizome of *Marsilea* 4
 (x) H.L.S. Sporocarp of *Marsilea* 4
 7. Explain :
 (y) Economic Importance of Algae in Food 4
 (z) Black arm of cotton 4
 (a) Types of Mycorrhiza 4

OR

- (b) Role of Fungi in medicine 4
 (c) Tikka disease of Groundnut 4
 (d) Harmful Aspects of Algae. 4