

Sr. No. of Question Paper: 6811

D

Unique Paper Code: 217375

Name of the Paper Paper 10-Biology of Life Forms

Name of the Course: B.Sc. (Prog.) Applied Life Science

Semester : III

Duration: : 3 Hrs.

Max. Marks: 75

Attempt five questions in all including Question No. 1 which is compulsory.

1. (a) Define any 'ten' of the following terms:

1 x 10 = 10

- (i) Bacteriophage
- (ii) Chemolithotrophs
- (iii) Akinetes
- (iv) Capsid
- (v) Gemma
- (vi) Coenosorus
- (vii) Elaters
- (viii) Open vascular bundle
- (ix) Elaters
- (x) Sporophyte
- (xi) Nucleoid

(b) Match the terms of column A with those in column B.

$\frac{1}{2} \times 10 = 5$

Column A	Column B
(i) <i>Pteris</i>	(a) Dwarf shoot
(ii) <i>Funaria</i>	(b) Endospore
(iii) <i>Penicillium</i>	(c) Prothallus
(iv) <i>Nostoc</i>	(d) Peristome
(v) TMV	(e) Artist's brush
(vi) <i>Marchantia</i>	(f) Bread mold
(vii) <i>Rhizopus</i>	(g) Archegoniphore
(viii) <i>Volvox</i>	(i) Coenobium
(ix) Bacteria	(j) capsomeres
(x) <i>Pinus</i>	(k) Heterocyst

2. Differentiate between any 'five' of the following:

$5 \times 3 = 15$

- (i) Eubacteria and archaea
- (ii) Lytic and lysogenic cycle
- (iii) Haplontic and haplobiontic life cycles
- (iv) Gram positive and gram negative bacteria
- (v) Transduction and conjugation
- (vi) Protoplast and ~~Sphaeroplast~~ *Sphaeroplast*

3. (a) With the help of well labeled diagram, compare the anatomical characters of a monocot stem with that of a dicot stem. 8

(b) Write down the salient features of pteridophytes and their economic importance. 7

4. (a) Describe the life cycle of *Agaricus*. 7

Or

Sexual reproduction in *Spirogyra*.

(b) What are lichens? Discuss the economic importance of lichens. 8

5. Write short notes on any 'five' of the following:

$5 \times 3 = 15$

- (i) Parasexuality
- (ii) Transformation
- (iii) Anatomy of dicot leaf
- (iv) Male cone of *Pinus*
- (v) Spore dispersal mechanism in *Pteris*
- (vi) L-forms

6. (a) Draw well labeled diagrams of any 'two' of the following:

$2 \times \frac{5}{2} = 5$

- (i) L.S. sporophyte of *Marchantia*
- (ii) T.S. *Pinus* needle
- (iii) Structure of bacteriophage T4

(b) Discuss the economic importance of Gymnosperms. 5

(c) Describe the economic importance of bacteria. 5