

This question paper contains 4 printed pages]

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S. No. of Question Paper : 71

Unique Paper Code : 216351

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Name of the Paper : Biodiversity-I—Microbes (LSPT-304)

Name of the Course : B.Sc. Life Sciences

Semester : III

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt five questions in all.

Question No. 1 is compulsory.

All parts of a question should be answered together.

Draw well-labelled diagrams wherever necessary.

1. (a) Define any ten terms :

1×10=10

(i) HIV

(ii) Endospore

(iii) Chemolithotrophs

(iv) Diatoms

(v) External Fertilization

(vi) Parasexuality

P.T.O.

(vii) Cleistothecium

(viii) Button stage

(ix) Heterocyst

(x) Akinetes

(xi) Rhizomorph

(xii) Isidia.

(b) Fill in the blanks (any five) :

1×5=5

(i) The phenomenon of heterothallism was discovered by

(ii) When flagella are spread evenly over the whole surface of bacteria, the flagellation is called

(iii) In Basidiomycetes, the septal pore complex is known as septum.

(iv) *Rhizopus* hyphae which grow horizontally over the surface of the substratum are called

(v) Genus produces beaked, pigmented, muriform and multicellular conidia.

(vi) are formed on the lower surface of infected Barberry leaf.

2. (a) Give the generic name of the organisms associated with the following terms (any six) :

1×6=6

(i) Rockweed

(ii) Carpospores

(iii) Plasmodium

(iv) Gills

(v) Phialides

(vi) Haustoria

(vii) Fairy rings.

(b) Give an account of life cycle of *Agaricus*.

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(c) Enumerate the importance of lichens.

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3. Differentiate between any *five* of the following :

3×5=15

(i) L form and Mycoplasma

(ii) Gram +ve and Gram -ve bacterial cell

(iii) Isogamy and Oogamy

(iv) Sporangia and Conidia

(v) Crustose and Foliose lichens

(vi) Ectomycorrhiza and Endomycorrhiza.

4. Write notes on any *three* of the following :

5×3=15

(i) Transmission of viral diseases in plants

(ii) Conjugation in Bacteria

(iii) Asexual reproduction in *Volvox*

(iv) Sexual reproduction in *Rhizopus*.

5. Draw well labeled diagrams of any *five* of the following : 3×5=15
- (i) T₄ Bacteriophage
 - (ii) E. M. of Bacterial cell
 - (iii) E. M. of *Chlamydomonas* cell
 - (iv) Conidial apparatus of *Penicillium*
 - (v) V. S. of lichen heteromorous thallus
 - (vi) V. S. bisexual conceptacle of *Fucus*.
6. (i) What is the difference between lytic and lysogenic cycle ? 5
- (ii) Describe the pigment system and food reserve in different classes of algae. 5
- (iii) Describe briefly the life cycle of *Puccinia graminis tritici*. 5
7. Write down the causal organism, symptoms and control measures of any *three* : 5×3=15
- (i) Tobacco mosaic
 - (ii) Citrus Canker
 - (iii) White rust of Crucifers
 - (iv) Early blight of Potato.