Seat No. : _____

AF-106

April-2016

B.Sc., Sem.–VI

Elective-311 : Biotechnology

(Biology of Fungi)

Time : 3 Hours] **[Max. Marks : 70**

1. Answer the following (Any **two**) : **14**

   (a) Explain ultrastructure of fungi with illustrated diagram.

   OR

   Discuss traditional and phylogenetic approach of fungal classification.

   (b) Describe the major classes of fungal classification and summarize their characteristics.

   OR

   Explain nutritional and physiological characteristics of fungi.

2. Answer the following (Any **two**) : **14**

   (a) Explain heterokaryosis of fungi in detail.

   OR

   Explain morphology and reproductive features of Saccharomyces cerevisiae.

   (b) Describe the reproduction and taxonomic status of Agaricus bisporus.

   OR

   Explain taxonomy and genetic manipulation of Neurospora.

3. Answer the following (Any **two**) : **14**

   (a) Explain causative agent, pathogenesis and diagnosis of subcutaneous mycosis in brief.

   OR

   Describe control and treatment of superficial mycoses in detail.

   (b) Explain the causative agent, treatment and control of systemic mycoses in brief.

   OR

   Write detailed notes on diagnosis, treatment and control of cutaneous mycoses in detail.

4. Answer the following (Any **two**) : **14**

(a) Explain role of fungi in bio-deterioration and bioremediation.

OR

Describe methods for inoculums development from fungal culture.

(b) Define food and beverages obtained from fungi.

OR

Write descriptive notes on

(1) Heterologous proteins from fungi

(2) Secondary metabolites from fungi

5. Answer the following : **14**

(1) Define Para-sexual cycle.

(2) Write the taxonomic status of Penicillium notatum.

(3) Name two fungi used for enzyme production.

(4) Write any two general characteristics of fungi.

(5) Give the two examples of sac-fungi.

(6) Give use of Neurospora crassa in research.

(7) Name chief chemical constituents of fungal cell wall.

(8) Why Deuteromycetes are called 'Imperfect Fungi'?

(9) Give names of any two semi-synthetic antibiotics.

(10) Define phylogeny.

(11) Define the dimorphic nature of fungi.

(12) Write two names of pathogenic fungi.

(13) Name three stages for sexual reproduction in fungi.

(14) Draw a label diagram of fungal hypha.

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