M. Sc. Bioscience (Microbiology) (Sem. III)
Examination
March/April – 2016
Bios-(M)-301-Advanced Taxonomy & Cytology of Microbes

Time : 3 Hours] [Total Marks : 70

Instructions :

(1) Fill up strictly the details of signs on your answer book.

Name of the Examination :
M. SC. BIOSCIENCE (MICROBIOLOGY) (SEM. III)
Name of the Subject :
BIOS-(M)-301-ADVANCED TAXONOMY & CYTOLOGY OF MICROBES

(2) Figures to the right indicate full marks of the questions.

.1 Answer any two of the following

a. Give important features of symbiotic N₂ fixing bacteria and discuss how do they fix nitrogen.

b. Describe the scheme of nomenclature & classification of Bacteria.

c. Explain the taxonomic backbone of prokaryotic system.

.2 Answer any two of the following

a. Discuss : Phylogenetic Vs. phenatic classification.

b. How does the oligonucleotide signature (sequences) and genomic fingerprinting is useful to determine the phylogenetic relationship.

c. Briefly discuss how taxonomic rank and phylogenetic tree are used for classifying the organisms?

.3. Answer any two of the following

a. Describe the salient features of structure of fungi.

b. How do viroids differ from prions? Explain their important features and the diseases caused by them.
c. Explain the structure of virus capsids and envelope.

.4 Answer any two of the following

a) Describe growth of bacteria by explaining the stages of bacterial growth curve.

b) Explain the fungal reproduction with suitable example.

c) Discuss the life cycle of *Saccharomyces cerevisiae* in detail.