

M.Sc. Semester - 4 (CBCS) Examination

March/April- 2018

MOLECULAR PHYLOGENY AND DIVERSITY
(CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que.-1(A) (Any Seven) (14)
1. What are molecular chronometers ?
 2. Write the principle of RFLP.
 3. How are Archea different from bacteria ?
 4. Mention striking properties of non cultivable microbes.
 5. What are beta proteobacteria ?
 6. Give names of two families belonging to Gm-ve Non Proteobacteria.
 7. Explain: Stalk and holdfast in proteobacteria.
 8. Where do we place Low G + C bacteria in Bergy's Manual ?
 9. What is ARDRA and TGGE ?
 10. Name the pathogens causing Gas gangrene, Botulism and Dental caries.
- Que.- 2 (Any Two) (14)
1. In the light of recent knowledge, explain molecular approaches used in taxonomy.
 2. Describe acquisition of mitochondria and chloroplast by proeukaryotic cell.
 3. Explain the importance of 16S rRNA in taxonomy.
- Que.- 3 (05)
1. Describe the importance of non cultivable microbes. (05)
 2. Explain Amplified Ribosomal DNA Restriction Analysis in detail. (05)
 3. Discriminate the biochemical features of cultivable and non cultivable Microbes. (04)
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- Que.- 3 (07)
1. Discuss major differences between cultivable and non cultivable microbes. (07)
 2. How is PCR-DGGE useful in understanding heterogeneity of non cultivable Microbes ?` (07)
- Que.4 (Any Two) (14)
1. Describe characteristics features of *Caulobacteraceae* and *Hyphomicrobiaceae* Family.
 2. Write in detail about Gm Negative Autotrophic Bacteria.
 3. Explain Delta and Epsilon group Proteobacteria.
- Que.5 (Any Two) (14)
1. Describe biological significance of Actinobacteria.
 2. Discuss the order *Lactobacillales* in detail.
 3. Explain the uses of Frankia and Bacilli.
 4. Describe Low G+C bacteria.
