

B.N.Bandodkar College of Science
S.Y.B.Sc. IVth Semester Examination 2014
USBO401
Paper I

Duration 2 hrs

Max Marks 60

- N.B
1. All questions are compulsory.
 2. Figures to the right indicate full marks.
 3. Draw neat labelled diagrams wherever necessary.

- Q.1 a) Explain in detail, mass propagation of *Rhizobium* cultures. 7
- OR
- a) Write an essay on bacterial fertilizers with reference to *Rhizobium*. 7
- b) What are culture media? How are they classified? 8
- OR
- b) Give the classification of autotrophic bacteria based on mode of nutrition. 8
- Q. 2 a) Describe the transverse structure of *Pinus* stem. 7
- OR
- a) Give a detail account of *Calamites*. 7
- b) Discuss in detail, sporophyte of *Selaginella*. 8
- OR
- b) Describe the structure of male cone of *Pinus*. Add a note on the male gametophyte. 8
- Q. 3 a) Describe the morphological peculiarities and two plants of economic importance of family **Meliaceae**. 7
- OR
- a) With reference to taxonomy comment on **Herbarium**. 7
- b) With reference to taxonomy comment on **Sacred Groves**. 8
- OR
- b) Give the classification and distinguishing characters of family **Apocynaceae**. 8
- Q. 4 a) Answer **any three** of the following in one word/ sentence: 3
1. Enlist the types of heterotrophic bacteria.
 2. Name any two types of staining techniques used in microbiology.
 3. What is the function of armed palisade in *Pinus*?
 4. In which Gymnospermic plant, do we get annual rings?
 5. *Haemalia patens* belongs to which family?
 6. *Azadirachta indica* belongs to which family?
- b) Attempt **any two** of the following: 12
1. Describe the structure of strobilus of *Selaginella*.
 2. Mention the significance of Botanical Garden
 3. Write a note on Bacterization.
 4. Write a note on PDA.