

**B.N.Bandodkar College of Science, Thane**  
**S.Y.B.Sc. Fourth Semester Examination 2014**  
**USBO402**  
**Paper II**

Duration 2 hrs

Max Marks 60

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

- Q.1 a) Describe in detail primary xylem. 7
- OR
- a) Write an essay on defense mechanism in plants. 7  
b) With the help of suitable diagrams explain the classification of siphonostele. 8
- OR
- b) Give a detailed account of mechanical tissue system in aerial organs of plants with reference to I-girders. 8
- Q. 2 a) Enlist physico-chemical properties of phytochrome. 7
- OR
- a) Explain role of phytochrome with reference to photoperiodism. 7  
b) What is vernalization? Explain the factors affecting it. 8
- OR
- b) What is EIA? Explain the role of EIA in society. 8
- Q. 3 a) Describe initiation and elongation phase of transcription with respect to prokaryotes. 7
- OR
- a) Describe in detail polymerase enzyme with respect to its role in transcription. 7  
b) Explain in detail the mechanism of protein sorting in the cell. 8
- OR
- b) With reference to prokaryotes describe the two types of termination mechanism. 8
- Q. 4 a) Answer **any three** of the following in one word/ sentence: 3
1. Enlist the elements of primary phloem.
  2. Enlist any two types of vascular bundles in plants.
  3. Give any two examples of foliose lichens.
  4. Give any two examples of crustose lichens.
  5. Name any three types of RNA molecules.
  6. Which sub unit helps in DNA template binding?
- b) Attempt **any two** of the following: 1
1. Write a note on protostele. 1
  2. Describe xerosere succession. 2
  3. Describe various stages of hydrosere succession.
  4. Explain in brief the process of obtaining proteins from DNA.