**B.N.Bandodkar College of Science, Thane**

**F.Y.B.Sc. Second Semester Examination 2013**

**USBOT201**

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) Discuss the external morphological features of the sporophyte of *Nephrolepis*. 7

**OR**

a) Describe the prothallus of *Nephrolepis*. 7

b) Discuss amber and canada balsam as products of economic importance from gymnosperms. Add a note on the horticultural importance of gymnosperms. 8

**OR**

b) Explain the structure of ovule in *Cycas*. 8

Q.2 a) Discuss the different kinds of stomata studied by you. 7

**OR**

a) Describe the primary structure of dicotyledonous stem. 7

b) Describe the internal structure of monocotyledonous stem. 8

**OR**

b) Explain the epidermal tissue system in plants. 8

Q.3 a) Explain the characters and one plant of importance from sub family Mimosae. 7

**OR**

a) Explain the characters and one plant of importance from family Asteraceae. 7

b) Explain the characters and two plants of importance from family Solanaceae 8

**OR**

b) Explain the characters and two plants of importance from family Amaryllidaceae. 8

Q.4 a) Answer **any three** of the following in one word/ sentence. 3

1. How many haploid spores are produced in a single sporangium of *Nephrolepis*?
2. Name any two parts/ structures seen in the sorus of *Nephrolepis*.
3. How many spermatozoids are produced in each pollen tube of *Cycas*?
4. Which cells provide strength and flexibility to the plant?
5. To which family does *Tamarindus indica* belong to?
6. How are the stamens arranged in sub family Papilionaceae?

b) Attempt **any two** of the following: 12

1. Write a note on the hydathode of *Nephrolepis*.
2. Write a note on coralloid roots of *Cycas*.
3. With reference to tissue systems, distinguish between monocot and dicot leaf.
4. Explain the morphological characters of family Malvaceae.