

B. N. BANDODKAR COLLEGE OF SCIENCE, THANE
II SEMESTER END EXAMINATION- MARCH - 2015

F.Y.B.Sc.
USBT 201

Duration: 2 hrs 30 min

Total Marks: 75

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

- Q.1 A Answer the following. (Any four) 8**
- 1) How would you sterilize mineral oil? Justify your answer.
 - 2) What is decimal reduction time?
 - 3) What is oligodynamic action?
 - 4) What are idophors?
 - 5) Explain the term Chemotherapy.
 - 6) How would you check the efficacy of an autoclave?
 - 7) What is Plasmoptysis?
 - 8) Explain 'Tissue Toxicity Index' in brief.
- Q.1 B Answer the following. (Any two) 12**
- 1) Justify – 'Radiations are effective means for control of microorganisms.'
 - 2) What are conditions that influence the effectiveness of the antimicrobial agent?
 - 3) Explain how Desiccation & Osmotic Pressure control microorganisms.
 - 4) Explain phenol coefficient method in detail.
- Q.2 A Answer the following. (Any four) 8**
- 1) Define 'rhizogenesis'.
 - 2) How would you sterilize vitamins in PTC media?
 - 3) Give two examples of auxins.
 - 4) Define organoids.
 - 5) How would you prepare cytokinins?
 - 6) Name two types of Juvenile Tissues used in PTC.
 - 7) Define embryoids.
 - 8) How would you raise sterile explants for organogenesis? **P.T.O.**

- Q.2 B Answer the following. (Any two)** **12**
- 1) How can PTC help in production of plants from seeds that otherwise have very low chances of germinating and growing?
 - 2) Write short note on callus induction.
 - 3) Write short note on methods of micropropagation.
 - 4) Explain somatic embryogenesis
- Q.3 A Answer the following. (Any four)** **8**
- 1) State the significance of 'T flask'.
 - 2) Define complete medium.
 - 3) Give two examples of synthetic medium.
 - 4) State true or false: Fibroblast cells from a mouse tissue are anchorage independent.
 - 5) Give any two examples of natural media used in ATC.
 - 6) Give any two examples of antibiotics used in ATC.
 - 7) How would you sterilize serum?
 - 8) Give uses of inverted microscope in ATC.
- Q.3 B Answer the following. (Any two)** **12**
- 1) Write advantages of serum free medium.
 - 2) What are primary cell cultures and cell lines? How would you obtain primary culture of fibroblasts?
 - 3) Explain the principle & working of laminar air flow.
 - 4) Explain organ culture.
- Q. 4 Answer the following** **15**
- 1) Explain the principle of autoclave. **OR**
 - 1) Explain: Pasteurization does not sterilize the sample; even then pasteurization of milk is routinely followed.
 - 2) Explain the significance of micronutrients in PTC. **OR**
 - 2) Explain the application of PTC in production of secondary metabolites.
 - 3) Write a short note on composition of DMEM medium. **OR**
 - 3) Explain the construction and use of CO₂ incubator in ATC.
