

B. N. Bandodkar College of Science, Thane

F. Y. B. Sc. (Sem II) Examination – 2013-14

USBT-201

Duration 2 hrs

Total Marks-60

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 two)

12

- 1) How would you differentiate between *E. coli* and *S. aureus* based on a differential staining technique?
- 2) What is staining? What are its types? Write a note on monochrome staining?
- 3) Write a note on different lenses of microscope.
- 4) Compare and contrast: bright and dark field microscopy.

Q.1 B Answer the following (Any three)

3

- 1) What is a leuco compound?
- 2) Name two acid fast organisms.
- 3) What is a chromophore?
- 4) Give significance of cedar wood oil.
- 5) Define: resolving power
- 6) Define numerical aperture.

Q.2 A. Answer the following (Any two)

12

- 1) What is conjugation? Explain it with experiment which proved the existence of conjugation.
- 2) What is transduction? Explain lytic cycle of phages.
- 3) Write a note on epistasis.
- 4) Explain the difference between complete dominance and incomplete dominance with suitable examples

Q.2 B Answer the following (Any three)

3

- 1) What are essential genes?
- 2) Name the scientist who discovered transduction.
- 3) Define: transformants
- 4) What are the probable blood groups of parents whose son has blood group O?
- 5) What is a prophage?

P.T.O.

- 6) Who discovered transformation?
- Q.3 A Answer the following (Any two) 12**
- 1) Describe the various types of cartilage.
 - 2) With the help of a neat, labeled diagram explain the structure of neuron.
 - 3) Why *E. coli* is considered as model organism in microbiology?
 - 4) Discuss the importance of *Drosophila* as a model organism.
- Q.3 B Answer the following (Any three) 3**
- 1) Give the scientific name of yeast.
 - 2) State the medicinal applications of Rhesus monkey.
 - 3) What is the function of mast cell?
 - 4) Name the tissues which are ectodermal in origin.
 - 5) Define: Nissl's granules.
 - 6) Name the transposons present in *Zea mays*.
- Q. 4 A Answer the following 12**
- 1) Write a note on Romanowsky stains.
OR
 - 1) Write a note on condenser.
 - 2) Explain multiple alleles using *Drosophila* eye colour as the example.
OR
 - 2) Discuss MacCarty, Avery and Macleod's experiment.
 - 3) With the help of a neat, labeled diagram explain the structure of bone.
OR
 - 3) Write a note on cardiac muscles.
- Q. 4 B Answer the following. 3**
- 1) What is distortion?
OR
 - 1) What is the role of Gram's iodine in Gram's staining ?
 - 2) Give significance of F pillus.
OR
 - 2) Define : competent cells
 - 3) What is the composition of white and yellow fibres?
OR
 - 3) What is the common name of *Drosophila*?
