

VPM's B. N. Bhandodkar College of Science, Thane
S. Y. B. Sc. (SEM IV) Examination 2016-17
REV—USBO403

Duration 2^{1/2} Hrs

Total Marks 75

- 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) Define horticulture Discuss the present status and scope of horticulture. 10
- OR
- a) What is a garden? With reference to garden describe hedges and flower beds. 10
b) Enlist various forms of informal garden. Add a note on designing an informal garden. 10
- OR
- b) What is a botanical garden? Describe Veer Mata Jijabai Udyan. 10
- Q.2 a) Discuss organization of a plant tissue culture laboratory. Add a note on the basic facilities required in a plant tissue culture laboratory. 10
- OR
- a) What is organogenesis? Discuss meristem culture and root culture. 10
b) What is restriction endonuclease enzyme? Discuss restriction endonuclease enzyme as a tool in gene cloning. 10
- OR
- b) What is a cloning vector? Describe different types of cloning vectors used in cloning experiments. 10
- Q.3 a) Smooth and wrinkled varieties of garden pea seed were crossed. The result showed all smooth pea seeds plants in F₁. In F₂ generation 787 smooth and 277 wrinkled plants were obtained out of 1064 plants where as the expected value should have been 798 smooth and 266 wrinkled. Does the result support Mendelian monohybrid ratio (3:1). (p at 0.05= 3.14) 10
- OR
- a) Calculate coefficient of correlation for two variables given below: 10
- | | | | | | |
|-----|----|----|----|----|----|
| (X) | 5 | 9 | 13 | 17 | 21 |
| (Y) | 12 | 20 | 25 | 33 | 35 |
- b) Discuss Blast as a tool for retrieving data from database. 10
- OR
- b) Describe various tools used for nucleotide sequence analysis. 10
- Q.4 Write short notes on any three of the followings 15
- a) Pomology and Olericulture
b) Edges
c) Totipotency
d) Plasmid vector pBR322.
e) Uses of Internet
f) Tools for protein sequence analysis