

Total No. of Pages: 2

Register Number:

6404

Name of the Candidate:

M.Sc. DEGREE EXAMINATION December 2014

(BOTANY)

(SECOND YEAR)

**230: BIOTECHNOLOGY, MOLECULAR BIOLOGY
AND GENETIC ENGINEERING**

Time: Three hours

Maximum: 100 marks

SECTION-A

Answer ALL questions

(8 × 3 = 24)

Each answer not to exceed 50 words

Explain the following:

1. Blunt and ligation
2. Single cell protein
3. Polyclonal antibodies
4. Interrupted genes
5. RNA polymerases
6. Repression
7. Microinjection
8. T₁ Plasmid

SECTION-B

Answer ALL questions

(6 × 6 = 36)

Each answer not to exceed 300 words

9. a) Describe various types of restriction enzymes.
(OR)
b) Give an account on DNA Splicing in molecular genetics.
10. a) Give an account on genetic engineering of 'nit' genes.
(OR)
b) Elucidate biocontrol of plant diseases and pest.

11. a) Comment on satellite DNA and super coiling DNA.
(OR)
b) Illustrate the C-value paradox cot curve.
12. a) Give an account on over view of transcription factor.
(OR)
b) Explain basic principles of gene regulation.
13. a) Distinguish between the particle gun method and microinjection method of gene transfer.
(OR)
b) Illustrate the role of T₁ plasmid in gene transfer technology.
14. a) Describe the importance of gene transformation for herbicide resistance.
(OR)
b) Give an account on gene transformation for delay of fruit reponing.

SECTION-C**Answer ALL questions****(2 × 20 = 40)**

15. a) Write in detailed account on Hybridoma technology and its application.
(OR)
b) Write in detail polymerase chain reaction and its application.
16. a) Discuss about the basic principles of gene expression, repression and regulation.
(OR)
b) Enumerate the development of stress resistance transgenic plants.

&&&&&&