



K19U 0084

Reg. No. :

Name :

VI Semester B.Sc. Degree (CBCSS – Reg./Supple./Improv.)
Examination, April 2019
(2014 Admission Onwards)
CORE COURSE IN BOTANY/PLANT SCIENCE
6B12 BOT/PLS : Biotechnology and Crop Improvement

Time : 3 Hours

Max. Marks : 40

SECTION – A

Choose the correct answer :

1. Technique to amplify DNA
 - a) Microinjection
 - b) PCR
 - c) Electroporation
 - d) Shot gun method
2. Cosmids are artificial plasmids created from
 - a) Agrobacterium
 - b) Escherichia coli
 - c) Yeast
 - d) Lambda phage
3. Taq DNA polymerase is a thermostable enzyme from
 - a) Virus
 - b) Bacterium
 - c) Yeast
 - d) Fungus
4. cDNA is formed from
 - a) rRNA
 - b) mRNA
 - c) tRNA
 - d) None of the above

(4×1=4)

SECTION – B

Answer **any eight** of the following :

5. Explain the significance of cDNA library.
6. Explain the Maxim Gilbert's method of gene sequencing.
7. Write notes on direct selection of recombinants.
8. Differentiate between mass selection and pure line selection.

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9. What is meant by heterosis ?
10. What is DNA micro array ?
11. Differentiate between Ti and Ri plasmids.
12. Comment on SSR.
13. Write on layering as a method of plant breeding.
14. What are the methods of introducing DNA into cells ?
15. What are selection markers ?
16. What do you know about polyploidy breeding giving examples ? **(8×2=16)**

SECTION – C

Answer **any four** of the following :

17. What are the achievements of biotechnology in the field of agriculture ?
18. Name nature's smallest genetic engineer. Write notes on it.
19. Explain the terms expression vector and shuttle vector.
20. Write short notes on colony hybridization.
21. Write notes on biosensors.
22. Give the applications of DNA fingerprinting. **(4×3=12)**

SECTION – D

Answer **any one** of the following :

23. Discuss the role of biotechnology in environmental protection.
24. What are the achievements of biotechnology in the field of industry ?
25. Briefly give the role of nanotechnology in life sciences. **(1×8=8)**