



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – August 2020
VI Semester

Class : III UG
Major : Botany

Time : 2 Hours
Max. Marks: 50

15BBOC23 Plant Genetic Engineering

Part A

10 x 1 = 10

Choose the Correct Answer

1. The genomic library was made by
a. T₄ phage
c. YAC vectors
b. T₃ phage
d. T₆ phage
2. DNA sequencing is used in
a. Forensic studies
c. Diagnostics
b. Biotechnology
d. All the above
3. IS elements are found in
a. Bacteria
c. Homosapians
b. Maize
d. Animals
4. Who discovered Maize transposons?
a. Watson and Crick
c. Gregor Mendel
b. Barbara McClintock
d. Kary Mullis
5. Kary Mullis discovered
a. Transformation
c. Cloning
b. Transposons
d. PCR
6. DNA finger printing is used in
a. Forensic studies
c. Diagnosis
b. Evolution
d. All the above
7. Which of the following enzyme is called as molecular glue?
a. Ligase
c. Terminal transferase
b. Alkaline phosphatase
d. S1 nuclease
8. The largest plasmid is
a. PBR 322
c. Ti
b. R
d. 'Col'
9. Nitrocellulose membrane is used in
a. Southern blotting
c. Shot gun
b. PCR
d. All the above
10. HAT medium is used to isolate
a. Clones
c. Poly clonal antibodies
b. Colonies
d. Monoclonal antibodies

Part - B

3 x 6 = 18

Answer any Three questions

Each answer should not exceed 400 words or two pages

11. Briefly write about Maxam and Gilbert's DNA sequencing method.
12. Comment on colony hybridization technique.
13. Write short note on types of bacterial transposons.
14. Explain the mechanism of transposition.
15. List out the applications of PCR techniques.
16. Define micro satellite and mini satellite.
17. Write about restriction endonuclease.
18. Give short account on shot gun technique.
19. Explain HAT selection.
20. What are the alternatives to Hybridoma technology?

Part - C

2 x 11 = 22

Answer any Two questions

Each answer should not exceed 800 words or four pages

21. Describe in detail the construction of cDNA library.
22. Explain Sanger's DNA sequencing method.
23. Write an account on bacterial transposable elements.
24. Elaborate in detail on Maize transposons.
25. What is PCR? Explain the process of PCR.
26. Explain DNA finger printing technique. Mention their advantages.
27. Comment on *Agrobacterium* mediated gene transfer.
28. With suitable diagram, describe Southern blotting technique.
29. Explain Hybridoma technology with suitable diagram.
30. What are Monoclonal antibodies? Write their advantages.
