



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

Master's Degree Examination – June / July 2021

II Semester

Class: I PG
Major: Biotechnology

Time : 3 Hours
Max Marks : 100

20MBTC10 Recombinant DNA Technology

Part A

10 x 1 = 10

Choose the Correct Answer

1. Molecular Scissors are also known as _____ enzymes CO1K1
 - a. restriction
 - b. biozymes
 - c. subzymes
 - d. codon
2. EcoR1 belongs to _____ restriction enzyme. CO1K2
 - a. Type II
 - b. Type I
 - c. Type III
 - d. Type IV
3. Torsion strain on DNA is released by _____ CO1K2
 - a. topoisomerase
 - b. Helicase
 - c. ligase
 - d. zymase
4. YAC is a _____ plasmid. CO3K2
 - a. circular
 - b. thick
 - c. delicate
 - d. bipolar
5. _____ uses nucleic acid-coated particles propelled by a gene gun to transfect cells or organelles. CO2K2
 - a. biolistics
 - b. Gun spot
 - c. liposome
 - d. neurosome
6. _____ is an example of herbicide tolerant plant. CO3K2
 - a. Brinjal
 - b. soybean
 - c. Cucumber
 - d. papaya
7. _____ is not used as viral vector CO3K2
 - a. adenovirus
 - b. poxvirus
 - c. lentivirus
 - d. coronavirus
8. _____ is made of phospholipid bilayer. CO3K2
 - a. liposome
 - b. herbicide
 - c. methanol
 - d. calcium
9. _____ is an imaging technique. CO3K4
 - a. autoradiography
 - b. PAGE
 - c. Southern Blotting
 - d. Western blotting
10. Minisatellites in the genome can be found by using _____ CO3K4
 - a. PAGE
 - b. UV spectrophotometer
 - c. DNA fingerprinting
 - d. histology

Part - B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Assess the technique of DNA finger printing and its applications. CO2K2
(or)
- 11.b. Express your views on plant transfer vectors CO1K1
- 12.a. What are the different types of ligation? CO3K2
(or)
- 12.b. Discuss about the viral mediated gene transfer. CO4K4
- 13.a. Report on blue and white colony selection on hybridization. CO3K3
(or)
- 13.b. Write a note on autoradiography. CO3K4
- 14.a. Highlight on vector construction. CO3K4
(or)
- 14.b. Express about rice genome project. CO4K4
- 15.a. Discuss about the DNA vaccines. CO5K5
(or)
- 15.b. Assess the Illumina and PacBio platform. CO4K5

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 16.a. Report on the multiple cloning vectors. CO2K3
(or)
- 16.b. Describe the methods of gene transfer. CO3K4
- 17.a. Discuss construction of of cDNA and genomic library CO2K3
(or)
- 17.b. Elaborate on the Human Genome Project. CO3K4
- 18.a. Illustrate and write a note on gene therapy. CO2K3
(or)
- 18.b. Indicate what is gene sequencing and its importance. CO3K5
- 19.a. Elaborate on the genome editing tools. CO4K4
(or)
- 19.b. What is IPR and its types. CO3K4
- 20.a. Highlight the biosafety regulations and norms regarding Genetic engineering of organisms. CO5K5
(or)
- 20.b. Discuss the national and international bodies concerned with biosafety, IPR and patent issues. CO5K5
