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PG3S-387-A-23
M.Sc. III Semester (CBCS) Degree Examination
BIOTECHNOLOGY
Microbial Biotechnology and Fermentation Technology
Paper - SCT- 3.1

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) Section "A" has all Compulsory questions.
2) Answer "B" and "C" Sections as per instructions.

SECTION - A

Write brief notes on the following **(10×2=20)**

1. Submerged fermentation
2. Steroids
3. Strain improvement
4. BT
5. Commensalism
6. Food additives
7. Mycorrhiza
8. Prebiotics
9. Nitrogenase
10. Media formulation

SECTION - B

Write short notes on any FOUR of the following **(4×6=24)**

11. SCP
12. Bacteriocin
13. Asymbiotic N_2 fixation
14. Biotransformation
15. Down stream process.
16. Types of Cell Immobilization.

SECTION - C

Answer any THREE of the following **(3×12=36)**

17. Give an account on the Various bioprocess variables influencing the rate of fermentation.

18. Explain the use of microbes in the production of alcoholic beverages.

19. Write an account on the industrial production of enzymes.

20. Describe the Biological nitrogen fixation process by Diazotrophs.

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PG3S-388-A-23
M.Sc. III Semester (CBCS) Degree Examination
BIOTECHNOLOGY
Molecular Biotechnology
Paper - OET- 3.1

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) Section "A" has all Compulsory questions.
2) Answer "B" and "C" Sections as per instructions.

SECTION - A

Answer the following in the brief. **(10×2=20)**

1. Cistron
2. tRNA
3. Frameshift Mutation
4. B - DNA
5. TATA Box
6. Homologous recombination
7. Tautomeric shift
8. SOS repair
9. Pyrimidine dimer
10. ORF

SECTION - B

Answer any FOUR of the following. **(4×6=24)**

11. Enzymes used in DNA replication.
12. LAC operon concept.
13. What is Conjugation?
14. Explain the types of DNA damage.
15. Mendel's laws of inheritance
16. Holiday model of genetic recombination.

SECTION - C

Answer any THREE of the following. **(3×12=36)**

17. Explain the process of transcription in eukaryotes.

18. Explain the properties of genetic code.

19. Give an account on Beadle and Tatum's experiments with Neurospora.

20. Explain the mechanism of catabolite repression.

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PG3S-386-A-23
M.Sc. III Semester (CBCS) Degree Examination
BIOTECHNOLOGY
Genetic Engineering
Paper - HCT- 3.2

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) Section "A" has all Compulsory Questions.
2) Answer "B" and "C" Sections as per instructions.

SECTION - A

Answer The following in brief: **(10×2=20)**

1. Cosmids and Phagemids
2. Real time PCR
3. Biosafety
4. RAPD
5. Expression vectors
6. PAC
7. Human Genome Project
8. Taq DNA polymerases
9. Gene Knockout
10. Mutagenesis

SECTION - B

Answer any Four of the following **(4×6=24)**

11. Restriction endonucleases
12. Transformation and Transfection.
13. PCR and Gene steps involved in amplifications
14. Gene therapy and its applications
15. Silent features of ideal vectors.
16. DNA finger printing.

SECTION - C

Answer any THREE of the following **(3×12=36)**

17. What are genomic and cDNA libraries? Explain the construction of cDNA library.

18. Write a note on chemical sequencing of DNA, its applications, advantages and disadvantages.

19. Explain in detail various types of expression strategies methods for producing industrial important biomolecules.

20. Write a note on tools of genetic engineering.
