PG2S-327-B-23
M.Sc. II Semester (CBCS) Degree Examination
BIOTECHNOLOGY
GENERAL BIOTECHNOLOGY
Paper - OET-2.1

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

Instructions to Candidate:

    1)   Section-A has ALL compulsory questions.

    2)   Answer B and C as per Instructions.

SECTION - A

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

1. Koch Postulates
2. Teichoic Acids
3. Thermophilies
4. Indicator Media
5. Totipotency
6. Cryopreservation
7. Cybrids
8. Transgenic animals
9. Cell lines
10. Housekeeping genes

SECTION - B

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

11. Contributions of Louis Pasteur
12. Cell wall of Bacteria
13. Germplasm conservation
14. Protoplast isolation
15. Cloning vectors
16. Genomic libraries

SECTION - C

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

17. Write a note on generation time and growth curve of microbes.
18. Describe in detail the basic requirements for animal cell culture
19. Give an account of molecular mechanism on mutations.
20. Discuss in detail structure and functions of a fermentor.

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Roll No _____   [Total No. of Pages : 1

PG2S-325-B-23
M.Sc. II Semester (CBCS) Degree Examination
BIOTECHNOLOGY
Molecular Biology
Paper - HCT-2.2

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. Gene fidelity
2. Conjugation tube
3. Z-DNA
4. Leading strand
5. Davis U tube
6. Promoter genes
7. Topoisomerase
8. Satellite DNA
9. NER repair
10. Gene silencing

SECTION - B

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

11. DNA polymerase.
12. Genetic code.
13. Specialized transduction.
14. Bacterial transformation.
15. Lytic and Lysogeny cycle.
16. Trp operon.

SECTION - C

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

17. Give an comparative account on translation in Eukaryotes and prokaryotes.
18. Explain the types of gene transfer in bacteria in detail.
19. What is operon? Describe the positive and negative regulations involved in Lac operon.
20. Describe wobble hypothesis with respect to genetic code.

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PG2S-325-B-23/2023

PG2S-324-B-23
M.Sc. II Semester (CBCS) Degree Examination
BIOTECHNOLOGY
Immunology
Paper - HCT-2.1

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 brief: (10×2=20)
1.   Immuno suppressive
2.   Clonal selection
3.   Bacterial antigens
4.   Multiple sclerosis
5.   Exogenous antigens
6.   Hypersensitivity
7.   Memory cells
8.   Prophylaxis
9.   NK cells
10.   DNA vaccines

SECTION - B

Answer any **FOUR** of the following: (4×6=24)
11.   Antigens-immunogens.
12.   Generation of antibody diversity.
13.   Super-antigens.
14.   Whole organism vaccines.
15.   TCR in autoimmunity.
16.   Secondary immunodeficiencies.

SECTION - C

Answer any **THREE** of the following: (3×12=36)
17.   Describe the Autoimmunity and explain the mechanism and role of CD4+Tcells.
18.   What are Immunoglobulin's? Explain the organization and expression of immunoglobulin gene.
19.   What is MHC? Mention the General organization and inheritance of Major Histocompatibility Complex.
20.   What is graft rejection? Explain the Clinical transplantation and immunosuppressive therapy.

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PG2S-326-B-23

M.Sc. II Semester (CBCS) Degree Examination

BIOTECHNOLOGY

Bioinformatics

Paper - SCT-2.1

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

Instructions to Candidates:

1) Section - A has all compulsory questions.

2) Answer Section - B and Section - C as per Instructions.

SECTION - A

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

1. Disperssion
2. LAN
3. ERNET
4. Pubchem
5. TIGR
6. SEQUIN
7. FASTA
8. Secondary structure
9. PubMed
10. MEDLINE

SECTION - B

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

11. Measurement of central tendency
12. VSNL
13. EBI
14. PlsmoDB
15. Nucleotide sequence databases
16. CLUSTAL W

SECTION - C

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

17. Explain in detail current prospective, emergence and commercial use of bioinformatics.
18. Give detailed account on Genbank sequence databases.
19. Explain in detail DNA microarray and its applications.
20. Explain construction and evaluation protein model.

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