(DBT 01)

P.G. DIPLOMA EXAMINATION,
NOVEMBER 2021.

First Year

Bio-Technology

MICROBIOLOGY AND IMMUNOLOGY

Time : Three hours Maximum : 70 marks

Answer any FIVE of the following questions.

All questions carry equal marks.

(5 × 14 = 70)

1. Describe the morphology and ultrastructure of Bacteria

2. Describe the general characters of Yeast and Mycoplasma.

3. Explain the methods of sterilization and its importance.

4. Describe the gene transfer mechanisms.

5. Write an account on phototrophic bacteria and their metabolism.

6. Explain the role of microorganisms in Nitrogen cycle and regulation of Nitrogenase.

7. Describe the types of immunity and its importance.

8. Describe the antibody and antigen reactions and their significance.

9. Write an account on Vaccines and their importance.

10. Enumerate compliment systems and its significance.

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(DBT 02)

P.G. DIPLOMA EXAMINATION,
NOVEMBER 2021.

First Year

Bio-Technology

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Time : Three hours Maximum : 70 marks

Answer any of the FIVE following questions.

All questions carry equal marks.

(5 × 14 = 70)

1. Describe the structure and functions of Carbohydrates.

2. Write an account on the structure and functions of Nucleic acids.

3. Describe Glycolysis and its significance.

4. Explain the Citric acid cycles and its importance.

5. Write an account on amino acid metabolism and its significance.

6. Describe the biosynthesis of Deoxy ribonuccleotides.

7. Describe Watson and Crick model of DNA.

8. Explain the DNA repair mechanisms and write notes on transcription.

9. Write an account on posttranscriptional modifications.

10. Enumerate genetic code and the regulation of gene expression.

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(DBT 03)

P.G. DIPLOMA EXAMINATION,
NOVEMBER 2021.

First Year

Bio- technology

PLANT AND ANIMAL TISSUE CULTURE AND GENETIC ENGG.

Time : Three hours Maximum : 70 marks

Answer any of the FIVE following questions.

All questions carry equal marks.

(5 × 14 = 70)

1. Describe the suspension cultures and single cell culture.

2. Explain Bergumens plating technique and its importance.

3. Describe the cellular totipotency and its significance.

4. Explain the methods of the isolation of protoplasts.

5. Write an account on source of material for cell culture.

6. Describe the constituents of culture medium and its preparation.

7. Describe micro carrier culture and cell synchronization.

8. Explain stem cell culture and its applications.

9. Describe the enzymes used in genetic engineering.

10. Write an account on gene therapy and expression of cloned genes.

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(DBT 04)

P.G. DIPLOMA EXAMINATION,
NOVEMBER 2021.

First Year

Bio- technology

APPLICATIONS OF BIOTECHNOLOGY

Time : Three hours Maximum : 70 marks

Answer any of the FIVE following questions.

All questions carry equal marks.

(5 × 14 = 70)

1. Describe the methods of preservation of industrially important microbes.
2. Explain methods of improvement of industrially important microbes.
3. Describe the fermentative production of acetic acid.
4. Explain the fermentative production of butanol.
5. Write an account on brewing of Vitamins and enzymes.
6. Explain the biosensors and their applications in biotechnology.
7. Describe production of tetracyclin and its applications.
8. Explain production of streptomycin and its applications.
9. Describe the production of somatostatin through genetically engineered microbes
10. Write an account on the production of transgenic animals and their applications in medicine.

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