

(DBT 01)

P.G. DIPLOMA EXAMINATION, DECEMBER 2019.

First Year

Bio-Technology

MICROBIOLOGY AND IMMUNOLOGY

Time : Three hours

Maximum : 70 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Describe the Ultra-structure of Bacterial cell with labelled diagram.
 2. Write an account on the general characters of Mycoplasma.
 3. Describe the growth and growth kinetics of Bacteria.
 4. Explain the gene transfer mechanism in Bacteria.
 5. Describe heterotrophic bacteria and their metabolism.
 6. Describe nitrogen cycle and regulation of nitrogenase and nif gene.
 7. Describe the structure of antigen and antibody.
 8. Write an account on types of immunity.
 9. Describe the production of monoclonal antibodies.
 10. Write an account on vaccine production and their uses.
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(DBT 02)

P.G. DIPLOMA EXAMINATION, DECEMBER 2019.

First Year

Bio – Technology

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Time : Three hours

Maximum : 70 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Describe the structure and functions of lipids.
 2. Write an account on the structure and functions of carbohydrates.
 3. Describe the cholesterol metabolism.
 4. Explain gluconeogenesis and its significance.
 5. Describe protein and amino acid metabolism.
 6. Describe the biosynthesis of purines and their metabolism.
 7. Describe replication and DNA repair.
 8. Describe Watson and Crick model of DNA.
 9. Describe the regulation of gene expression and genetic code.
 10. Write an account on mutations and their importance.
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(DBT03)

P.G. DIPLOMA EXAMINATION,
DECEMBER 2019.

First Year

Bio-Technology

PLANT AND ANIMAL TISSUE CULTURE AND GENETIC ENGINEERING

Time : Three hours

Maximum : 70 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Describe the initiation and maintenance of callus and suspension cultures.
 2. Write an account on the methods of sterilization.
 3. Write an account on cellular potency.
 4. Describe the production of haploids.
 5. Describe the biology of cells in culture.
 6. Describe the constituents of culture medium.
 7. Describe cell synchronisation and cell growth.
 8. Describe stem cell culture and its applications.
 9. Describe the enzymes used in genetic engineering.
 10. Write an account on identification and expression of cloned genes.
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(DBT04)

P.G. DIPLOMA EXAMINATION,
DECEMBER 2019.

First Year

Bio-Technology

APPLICATIONS OF BIOTECHNOLOGY

Time : Three hours
marks

Maximum : 70

Answer any FIVE questions.

All questions carry equal marks.

1. Describe methods of preservation of industrially important microbes.
 2. Write an account on isolation and maintenance of important microbes.
 3. Write an account on fermentative production of alcohol.
 4. Describe the fermentative production of Butanol.
 5. Write an account on enzymes and brewing.
 6. Describe the production of vitamins and their importance.
 7. Describe the production of antibiotic, penicillin and its importance.
 8. Write an account on the production of antibiotic, Streptomycin and its applications.
 9. Describe the production of insulin and its importance.
 10. Write an account on the production of transgenic plants and their importance in medicine.
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