

PGIIS 1568 B-15
M.Sc. IIIrd Semester Degree Examination
Microbiology
(Molecular Biology & Genetic Engineering)
Paper - 3.1

Time : 3 Hours

Maximum Marks : 80

Instructions to CandidatesAnswer **all** the Sections**Section - A**

1. Write brief notes on any **TEN** of the following: **(10×2=20)**
- a) Insertional inactivation
 - b) Noise
 - c) YAC
 - d) RAPD
 - e) Chromosome walking
 - f) Taq polymerase
 - g) Base excision repair
 - h) Isopychnic centrifugation
 - i) Gradient gel electrophoresis
 - j) Electroporation
 - k) Phagemid vector
 - l) In Vitro Packaging.

Section -B

Write short notes on any **six** of the following:

(6×5=30)

2. Agricultural applications of recombinant DNA technology
3. Joining of nucleic acids.
4. Ti-plasmid based vectors.
5. Antisense RNA technology.
6. Production of nucleic acid probes.
7. Northern blotting
8. Production of cDNA

Section - C

Answer any **three** of the following:

(3×10=30)

9. What is a restriction endonuclease? Describe the properties, types and applications of restriction endonucleases.
 10. Discuss the recent Advances in nucleic acid sequencing.
 11. Define a recombinant. Discuss the methods applied for screening and isolation of recombinants.
 12. Explain the principle, methodology, types and applications of PCR.
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PGIIS 1569 B-15
M.Sc. IIIrd Semester Degree Examination
Microbiology
(Food & Dairy Microbiology)
Paper - 3.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates

Answer **all** the Sections

Section - A

1. Write brief notes on any TEN of the following: (10×2=20)

- a) Inhibitory substances of food
- b) FRAC
- c) Putrefaction
- d) Food additives
- e) List chemical preservatives
- f) Wisker of meat
- g) Food poisoning
- h) MBRT
- i) HACCP
- j) Tempeh
- k) Blue cheese
- l) Mycotoxins

Section - B

Write short note on any **six** of the following:

(6×5=30)

2. Contamination of foods by water sources
3. Preservation of food by physical methods
4. Detection of foodborne pathogens through Immunological techniques
5. Spoilage of milk
6. Role of probiotics in food borne diseases
7. Justify how food as a substrate for microbes
8. Role of BIS in food sanitation

Section - C

Answer any **three** of the following

(3×10=30)

9. Discuss in detail food borne diseases and their control
 10. Discuss the role of microbes in yogurt preparation
 11. Explain in detail food safety laws and their standards.
 12. Discuss in detail source of contamination and preservation of milk
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PGIIS 1570 B-15
M.Sc. IIIrd Semester Degree Examination
Microbiology
(Immunology & Immunotechniques)
Paper - 3.3

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates

Answer all the Sections

Section - A

1. Write brief notes on any ten of the following: (10×2=20)

- a) Passive immunity
- b) Interleukins
- c) Agranulocytes
- d) Germinal centres
- e) SCID
- f) Adjuvant
- g) Fab fragment
- h) RIA
- i) Membrane attack complex
- j) Clonal selection
- k) Allograft
- l) DNA vaccine

Section - B

Write short note on any six of the following:

(6×5=30)

2. Tumour antigens
3. Barriers of Innate immunity
4. Type III Hypersensitivity reaction
5. Structure of Lymph node
6. Production of Monoclonal antibodies
7. Immune response to bacterial infections
8. Applications of precipitation reactions

Section - C

Answer any **three** of the following:

(2×10=30)

9. Explain the structure and function of class I and II of MHC Molecules.
 10. Describe the processing of endogenous antigens.
 11. Write an account of the development of cellular immune response.
 12. Write an account of immunodeficiency syndrome due to deficient of T and B cells and complement.
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PGIIS 1571 B-15
M.Sc. IIIrd Semester Degree Examination
Microbiology
(Microbial Technology & Entrepreneurship)
Paper - 3.4

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer All the sections.

SECTION -A

1. Write brief notes on any **ten** of the following **(10×2 =20)**
- a) Microbes in wine making
 - b) Preservation of microbial strains
 - c) Vitamins
 - d) Yogurt
 - e) Vermicomposting
 - f) Methane gas
 - g) Biopolymer
 - h) Single cell protein
 - i) Women Entrepreneurship
 - j) Curling of milk
 - k) Composting
 - l) Genetically Engineered Microbes

SECTION - B

Write short notes on any **six** of the following

(6×5 =30)

2. Bread Making
3. Isolation of Industrially important Microorganisms
4. Types of Raw materials
5. Nitrogen Fixation
6. Recovers of precious metals
7. Govt. Regulation of Entrepreneurship
8. Intellectual property rights.

SECTION - C

Answer any **three** questions

(3×10 =30)

9. Write a detailed account of the commercial production of Biofuels
 10. Discuss in detail the application of GMO in health
 11. Explain in detail the commercial production of Antibiotics
 12. Write an overview of Biopesticides.
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