

**PGIIS-N 1581B-2K13****M.Sc. IIIrd Semester (CBCS) Degree Examination****Microbiology****(Molecular biology and Genetic Engineering)****Paper -HC-3.1****(New)**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates.**Answer **all** Sections.**Section - A****1. Write brief notes on any ten of the following.****(10×2= 20)**

- a) Zonal centrifugation.
- b) Electroporation.
- c) Blunt end ligation.
- d) Antisense RNA.
- e) Primers.
- f) Relaxed and stringent plasmids.
- g) RFLP.
- h) Polynucleotide Kinase
- i) Di-deoxynucleotide.
- j) RT-PCR.
- k) T-DNA.
- l) Phosmid vectors.

### Section - B

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

(6x5=30)

2. Medical applications of recombinant DNA technology.
3. RNAi technology.
4. One lane sequencing.
5. Type-II restriction endonucleases.
6. M-13 based vectors.
7. Applications of nucleic acid hybridizations.
8. DNA Microarrays.

### Section - C

Answer any **THREE** of the following.

(3x10=30)

9. Give a comparative account of the construction and applications of genomic Libraries and cDNA libraries.
  10. What is a nucleic acid probe? Discuss the methods of preparation and labeling of nucleic acid probe. .
  11. Give the properties of an ideal plasmid. Discuss the properties and applications of Plasmid based vectors.
  12. Describe the Systems that safeguard the genetic information against DNA damages.
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**PGIIS-N 1582 B-2K13****M.Sc. IIIrd Semester(CBCS) Degree Examination****Microbiology****(Food and Dairy Microbiology)****Paper - HC - 3.2****(New)**

Time : 3 Hours

Maximum Marks : 80

***Instructions to Candidates:****Answer all sections.***Section - A**

Write brief notes on any ten of the following:

**(10×2=20)**

1. a) En value
- b) Acidic food
- c) High meat
- d) Perishable foods
- e) Putrefaction
- f) Thermal Death time
- g) Pasteurization
- h) ISO 9000
- i) Carmalized milk
- j) Clostridium Perfringens
- k) Phosphatase Test
- l) Acidophilus milk.

**Section - B**

Write short notes on any six of the following

**(6×5=30)**

2. Moisture requirement concept
3. Factors affecting the growth of organisms

4. Removal of microorganism from food
5. Effect of Freezing temperature on Microorganisms
6. Preparation of Yoghurt
7. Methylene blue reductose test
8. Food sanitation

### Section - C

Answer any **three** questions. Each questions carries **10** marks.

**(3×10=30)**

9. Write a detailed account on drying as preservative method
  10. Discuss the steps involved in the preparation of cheese.
  11. Discuss the contamination, preservation and spoilage of Eggs & egg products
  12. Discuss the different types fungal toxins in food poisoning process.
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**PGIIS-N 1583 B-2K13****M.Sc. IIIrd Semester (CBCS) Degree Examination****Microbiology****(Immunology and Immunotechniques)****Paper -SC-3.3****(New)**

Time : 3 Hourss

Maximum Marks : 80

**Instructions to Candidates:**Answer **all** Sections.**Section - A**1. Write short notes on any **Ten** of the following.**(10×2= 20)**

- a) NK cells.
- b) Affinity and avidity .
- c) CFT.
- d) TCR.
- e) Tuberculin test.
- f) Variolation.
- g) Humanized antibodies.
- h) Agglutination reaction.
- i) Adjuvents.
- j) Macrophages.
- k) Membrane attack complex.
- l) Karl Landsteiner.

### Section - B

Write short notes on any **Six** of the following.

(6x5=30)

2. Contributions of Pasteur and Jenner to Immunology.
3. Activation of T cell.
4. Viral Vaccines.
5. Tumor Immunology.
6. Structure and function of MHC II molecules.
7. Rocket Immunoelectrophoresis.
8. Sever Combined Immuno-deficiency Disease.

### Section - C

Answer any **THREE** of the following.

(3x10=30)

9. Write in details on Auto immune diseases.
  10. Describe the Production of Polyclonal and monoclonal antibodies.
  11. Write the general characters and types of antigens with suitable examples.
  12. Describe the structure and functions of secondary lymphoid organs.
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**PGIIS -N 1584 B-2K13****M.Sc. IIIrd Semester (CBCS) Degree Examination****Microbiology****(Microbial Technology and Entrepreneurship )****Paper -3.4 OE****(New)**

Time : 3 Hours

Maximum Marks :80

**Instructions to candidates:**Answer **all** sections**Section - A**

1. Write brief notes on any **ten** of the following. (10x2=20)
- a) Rennet
  - b) SCP
  - c) RUM
  - d) Molasses
  - e)  $\alpha$ -amylose
  - f) Spawn
  - g) Methanogenesis.
  - h) Bioleaching
  - i) Xenobiotics
  - j) HRM
  - k) Marketing skills
  - l) Humus.

**Section - B**Write short notes on any **six** of the following (6x5=30)

- 2. Preparation of Bread
- 3. Composting
- 4. Auxanography
- 5. Production of vitamin B<sub>12</sub>
- 6. Rural and woman Entrepreneurship
- 7. Malting
- 8. Patent laws.

### Section - C

Answer any **three** of the following

(3x10=30)

9. Write a detailed account on the production of wine
  10. Illustrate the use of genetic Engineering methods for the improvement of industrially important strains.
  11. Explain the mechanism of nitrogen fixation in leguminous plants
  12. Discuss Government schemes for commercialization of microbial Technology.
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**PGIIS -N 1584 B-2K13****M.Sc. IIIrd Semester (CBCS) Degree Examination****Microbiology****(Microbial Technology and Entrepreneurship )****Paper -3.4 OE****(New)**

Time : 3 Hours

Maximum Marks :80

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- b) SCP
- c) RUM
- d) Molasses
- e)  $\alpha$ -amylase
- f) Spawn
- g) Methanogenesis.
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- i) Xenobiotics
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