

**PGIIS-N 1573 B-2K13**  
**M.Sc. IIIrd Semester Degree Examination**  
**Biotechnology**  
**(Animal Biotechnology)**  
**Paper - HCT-3.1**  
**(New)**

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. Epididymis
2. menstruation
3. Superovulation
4. Hybrid antibodies
5. Cryopreservation
6. Ectodermal cells
7. Follicular atresia
8. Amniocytes
9. RAPD
10. Muga

### Section - B

Answer any **four** of the following

(4×6=24)

11. prawn culture
12. Embryo splitting
13. yeast vector
14. Meta estrons
15. Structure of sperm
16. Cyclic Amp

### Section - C

Answer any **three** of the following

(3×12=36)

17. What are stem cells? Add a note on its culture types and its applications
  18. Explain the life cycle of silk worm
  19. Describe in detail about the methodology of transgenic animal production
  20. Write a note on embryo transfer splitting sexing & micromanipulation
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**PGIIS -N 1574 B-2K13****M.Sc IIIrd Semester Degree Examination****Biotechnology****(Genetic Engineering )****Paper - HCT-3.2****(New)**

Time : 3 Hours

Maximum Marks :80

**Instructions to candidates :**

1. Section 'A' has all **compulsory** question
2. Answer 'B' and 'C' sections as per instructions.

**Section - A**

Answer the following in brief:

**(10x2=20)**

1. DNA - polymerases
2. PBR - 322
3. Hopping Libraries
4. Mismatch chemical cleavage
5. Colony PCR
6. Gene knockout
7. Replica plating Technique
8. Allele specific amplification
9. RFLP
10. Northern blotting

**Section - B**Answer any **four** of the following.**(4x6=24)**

11. Non - Radioactive probes
12. Protein truncation test
13. Tools of Genetic Engineering
14. DNA - Microarray
15. Site specific mutagenesis
16. PCR - in molecular diagnostics.

### Section - C

Answer any **three** of the following

(3×12=36)

17. Discuss in detail various types of cloning Vectors.
18. Describe the mode of insertion of foreign DNA into host cell with a schematic diagram.
19. Explain in detail various types of PCR with its applications
20. Write a detailed note on gene therapy.

**PGIIS-N 1575 B-2K13****M.Sc. IIIrd Semester Degree Examination****Biotechnology****(Microbial Biotechnology)****Paper - SCT - 3.1****(New)**

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. Amensalism
2. Bioconversion
3. Fb:sv ratio
4. Probiotics
5. Alkaloids
6. Baculoviruses
7. NPV
8. Batch fermentation.
9. Bioprocess variables.
10. Antifoaming agents.

**Section - B**Answer any **four** of the following:**(4×6=24)**

11. Preservation of cultures.
12. Food additives
13. Negative interactions.
14. Submerged fermentation.

15. Nutraceuticals.

16. SCP.

### Section - C

Answer any **three** of the following:

(3×12=36)

17. Give an account of conventional fermentation v/s Biotransformation.

18. Write an account on the different types of strain improvement techniques used for better yield of the product.

19. Describe the production of biofertilizers of Rhizobium and add a note on its significance.

20. Discuss in detail the production of  $\beta$ -Lactam antibiotics and add a note on its importance.

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**PGIIS-N 1576 B-2K13****M.Sc. IIIrd Semester(CBCS) Degree Examination****Biotechnology****(Molecular Biology)****Paper - OET - 3.1****(New)**

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. Nucleotide
2. Cistron
3. Translocation
4. Z-DNA
5. YAC
6. Termination codon
7. Electrophoration
8. Tag polymerase
9. Cosmid
10. Muton

## Section - B

Answer any **FOUR** of the following

(4×6=24)

11. Tatum's experiment
12. Forms of RNA
13. Conjugation
14. Operon concept
15. DNA ligation
16. Structure and properties of pUC<sup>18</sup>

## Section - C

Answer any **three** questions.

(3×12=36)

17. Explain the theories of replication. Add a note on fine structure of DNA
  18. Describe the method of c<sup>DNA</sup> library construction. Add a note on its importance.
  19. Discuss the DNA damage and repair mechanism
  20. Discuss in detail the process of translation in prokaryotes.
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