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**PGIIS-809 A-21**  
**M.Sc. III Semester (CBCS) Degree Examination**  
**BIOTECHNOLOGY**  
**Animal Biotechnology**  
**Paper : HCT -3.1**

**Time : 3 Hours**

**Maximum Marks : 80**

**SECTION-A**

Answer the following in brief.

(10×2=20)

1. Adrenal Gland.
2. Follicular atresia.
3. Serum free medium.
4. Cell adhesion.
5. Hematopoietic.
6. Surrogate.
7. Growth hormone.
8. Cloning.
9. Tasar.
10. RFLP.

**SECTION - B**

Answer any **Four** of the following.

(4×6=24)

11. Micromanupulation of embryos.
12. Estrous cycle.
13. Vermiculture Techniques.
14. Artificial insemination.
15. Ethical issues in cloning and animal cell culture.
16. Human Genome project.

### SECTION - C

Answer any **Three** of the following.

(3×12=36)

17. Discuss the basic requirements for animal cell culture and add a note on culture medium.
  18. Describe Anatomy and function of male accessory reproductive organs.
  19. What are Stem cells? Give a Detailed account on Stem cell culture, its types and applications.
  20. Explain the life cycle and rearing methods of silk worm.
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**PGIIS-811 A-21**  
**M.Sc. III Semester (CBCS) Degree Examination**  
**BIOTECHNOLOGY**  
**Microbial Biotechnology And Fermentation Technology**  
**Paper : SCT -3.1**

**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**

Write brief notes on the following.

(10×2=20)

1. Fermentation kinetics.
2. Corn steep liquor.
3. Baffles.
4. Probiotics.
5. Algal proteins.
6. SCP.
7. Antifoams.
8. Symbiotic N<sub>2</sub> fixation.
9. Food yeasts.
10. Enzyme immobilization.

**SECTION - B**

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

(4×6=24)

11. Biotransformation.
12. Criteria used for strain selection.
13. Bacteriocins from lactic acid bacteria.
14. Microbial production of single cell oil.
15. Biotechnology applications of Baculoviruses.
16. Microbial transformation steroids and non - steroid compounds.

**SECTION - C**

**(3×12=36)**

Answer any **Three** of the following.

17. Discuss the concepts of basic fermentation process. Add a note on types of fermentations.
  18. Write an account on scale up and scale down process.
  19. Explain the use of microbes in the production of alcoholic beverages.
  20. Briefly describe the genetics and mechanism of  $N_2$  fixation by microbes.
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**PGIIS-810 A-21**  
**M.Sc. III Semester (CBCS) Degree Examination**  
**BIOTECHNOLOGY**  
**Genetic Engineering**  
**Paper : HCT -3.2**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

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

**SECTION-A**

Answer the following in brief.

(10×2=20)

1. Transfection.
2. Shuttle vectors.
3. Human Genome Project.
4. cDNA library.
5. Plasmid.
6. Automated DNA Sequencing.
7. PBR<sup>322</sup>
8. Target DNA.
9. Hot Start PCR.
10. GMOs.

**SECTION - B**

Answer any **Four** of the following.

(4×6=24)

11. DNA Amplification.
12. Genetic Diseases.
13. Molecular Markers.
14. Human Genome Sequencing.
15. Gene Therapy.
16. Transformation.

### SECTION - C

Answer any **Three** of the following.

**(3×12=36)**

17. Write a note on various strategies of gene cloning.
  18. Describe in detail expression of industrially important products.
  19. Give an account DNA Fingerprinting.
  20. Discuss in detail various methods DNA sequencing.
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