Roll No. _____ [Total No. of Pages : 2

PGIIIS 1564 B-15
M.Sc. IIIrd Semester Degree Examination
Biotechnology
(Animal Biotechnology)
Paper - HCT - 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

I Answer the following in brief: **(10×2=20)**

1. Parathyroid gland

2. Follicular atresia

3. Tasar

4. Hematopoietic

5. Infertility

6. Hybridization probe

7. Ectodermal cells

8. Spermatogonia

9. Bacuo viruses

10. HGPRT

Section - B

II Answer any **four** of the following: **(4×6=24)**

11. Human gene therapy.

12. Mechanism of hormone action.

13. Animal viral vectors.

14. Application of RFLP.

15. Aquaculture.

16. Structure of ovary.

Section -C

III Answer any **three** of the following: **(3×12=36)**

17. Describe the structure and functions of endocrine glands.

18. What are stem cells? Mention its culture, types of characterization and applications.

19. "Earth worms are farmer friends' substantiate the statement.

20. Describe Human Genome project and its applications.

Roll No. _____ [Total No. of Pages : 2

PGIIIS 1565 B-15
M.Sc. IIIrd Semester 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' sections as per instructions.

Section - A

Answer the following in brief: **(10×2=20)**

1. Linkers and adaptors
2. EMSA
3. pET vectors.
4. Baculovirus system.
5. Phage display.
6. Hot start PCR.
7. Allele specific amplification.
8. Microinjection.
9. Ex vivo gene therapy.
10. Expression cloning.

Section - B

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

11. Restriction enzymes.
12. Recombinant protein purification.

13. Cloning of PCR products.

14. Yeast two hybrid system.

15. Knockout mice.

16. Artificial chromosome vectors.

Section -C

Answer any **three** of the following: (3×12=36)

17. Give an account of nucleic acid hybridization techniques used in genetic engineering.

18. Describe the plant based vectors used in gene cloning and expression.

19. Explain the construction and screening of cDNA library.

20. Discuss the gene silencing techniques.

Roll No. _____ [Total No. of Pages : 2

PGIIIS 1567 B - 15

M.Sc. IIIrd Semester Degree Examination

Biotechnology

(Molecular Genetics)

Paper -OET - 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

Answer the following in brief : **(10×2=20)**

1. Genes
2. Point mutations
3. B - DNA
4. Initiation codons
5. Operon
6. Competent cell
7. Jumping genes
8. Hfr-cell
9. Excision repair
10. Muton.

Section - B

Answer any **four** of the following (4×6=24)

11. DNA as a genetic material

12. Mechanism of Transformation

13. Fine structure of gene

14. Translation in prokaryotes

15. Beadle and tatum experiment

16. Tautomerism

Section - C

Answer any **three** of the following (3×12=36)

17. Write in detail the Mendel's law of inheritance

18. Discuss in detail the replication of DNA with its mechanism.

19. Give an account on overview of genetic code and its properties.

20. Describe in detail the mechanism of transduction.

Roll No. _____ [Total No. of Pages : 2

PGIIIS 1566 B-15
M.Sc. IIIrd Semester Degree Examination
Biotechnology
(Microbial Biotechnology)
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

Answer the following in brief: **(10×2=20)**

1. Fed batch fermentation

2. Bacteriocins

3. Cell immobilization

4 Probiotics

5. Mushroom

6. Nutraceuticals

7. Algal proteins

8. Baculoviruses

9. Azolla

10. Biotransformation.

Section - B

Answer any **Four** questions of the following (4×6=24)

11 Positive interactions

12 Single cell oil

13. CPV and NPV

14 Microbes used in agribiotechnology

15. Genetics of N_2 fixation

16. Microbial transformation of Xenobiotics

Section - C

Answer any **Three** of the following: (3×12=36)

17. Explain in detail the microbial production of polysaccharides and add a note on its industrial applications

18. Discuss in detail the microbial production of BT and write on its advantages over the chemical pesticides

19. Write an detailed account on the industrial production of biofertilizers by rhizobium and explain how it is used in the fields

20. Describe in detail the different steps involved in the microbial bioconversion process.