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

PGIIIS 1579 B-14
M.Sc. IIIrd Semester (CBCS)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. *Ansswer B and C sections as per instructions*

Section-A

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

a) Adrenalin

b) Lenteolysis

c) Proestrons

d) FSH

e) Neurotransmitters

f) Cell proliferation

g) Artificial insemination

h) Cell mediated gene transfer

i) Prostate gland

j) Nucleic acid probes

Section-B

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

1. Recombinant proteins
2. Ethical issues incloning
3. Culture of amniocytes
4. Embryo transfer techniques
5. Baculoviruses
6. Diestrons stage

Section-C

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

7. Explain the structure and functions of male reproductive organs
8. Describe the basic requirements for animal cell culture
9. What are vectors? Explain various types of vectors used in cloning
10. Describe various types of genetic diseases trageted for gene therapy.

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PGIIIS-N 1581 B-14
M.Sc. IIIrd Semester (CBCS) Degree Examination
Biotechnology
(Microbial Biotechnology)
Paper - SCT-3.1
(New)

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates:

i) Section A has all compulsory questions

ii) Answer B and C sections as per instructions

Answer the following in brief **Section-A** **(10x2=20)**

1. VAM

2. C:N ratio

3. Conventional fermentation

4. Flavours

5. Carotenoids

6. Vegetables oils

7. Cell immobilization

8. Rhizobium

9. Xenobiotics

10. Fb:SV ratio

Section-B

Answer any four of the following **(4x6=24)**

11. Positive interactions

12. Fed-Batch fermentation.

13. Bacteriasn

14. Nutritional parameters

15. probiotics and prebiotics

16. Nutraceuticals

Section-C

Answer any **three** of the following: **(3x12=36)**

17. Write an detailed account on the microbial production of polysaceharides and add a note on its biotechnological applications

18. Discuss in detail the different strain improvement processes used for the development of a novel strain.

19. Give an account of the different types of bioconversions and add a note on the microbial transformation of non steroid compounds

20. Describe the process of nitrogen fixation by rhizobium and add a note mechanism of N_2 fixation

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PGIIIS-N 1580 B-14
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 questions.*
2. *Answer 'B' and 'C' Sections as per instructions.*

SECTION - A

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

1. ECORT

2. Genetic linkage analysis

3. Fusion vectors

4. Chromosomal walking

5. P^{ET} - based vectors.

6. Gene library

7. RAPD

8. Gene knockout

9. Oligonucleotides

10. Multiplex PCR

SECTION - B

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

11. Colony hybridization

12. Plasmid vectors

13. Types of PCR

14. Introducing DNA into mammalian cells.

15. Electromobility shift assay.

16. Proof reading enzymes.

SECTION - C

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

17. Describe various types of enzymes involved in gene cloning with their importance.

18. Discuss in detail the cloning vectors.

19. Explain various steps of amplification of gene in PCR.

20. Discuss major developments involved in the DNA - sequencing

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

PGIIIS-N 1582 B-14

M.Sc. IIIrd Semester (CBCS) Degree Examination

Biotechnology

(Molecular Biotechnology)

Paper : OET 3.1

(New)

Time : 3 Hours Maximum Marks : 80

Instructions to Candidates:

i) Section A has all compulsory questions.

ii) Answer 'B' and 'C' Sections as per instructions.

SECTION - A

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

1. Z - DNA

2. Topoisomerase

3. r - RNA

4. Stop codon

5. Point mutation

6. Specialized recombination

7. Plasmid

8. Hind - III

9. Trp - operon

10. Transposon

SECTION - B

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

11. Fine structure of gene

12. Pyrosequencing

13. C - DNA library

14. Types of RNA

15. Give an account of mutation

16. One gene one protein hypothesis.

SECTION - C

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

17. Discuss regulation of gene expression in Eukaryotes

18. Explain the different form of genetic recombinations.

19. Give a detailed account DNA replication.

20. Describe Mendel's law of inheritance and bring out relation between protein and gene.