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B.Sc./5th Sem (H)/ZOOLOGY/23(CBCS)

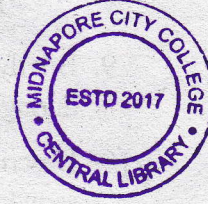
2023

5th Semester Examination

ZOOLOGY (Honours)

Paper : DSE 2-T

[CBCS]



Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

[Animal Biotechnology]

Group - A

Answer any *five* of the following questions :

2×5=10

1. Mention two characteristic features of prokaryotic genome.
2. How does genomics differ from genetics?
3. Mention two differences between genomic DNA library and c-DNA library.
4. Define gene therapy and its significance in genetic modification.
5. What is Biopiracy? Give two example.
6. What is hybridoma cell? State its significance.
7. What is T_m value?
8. Why are type II restriction endonucleases used for DNA cloning?

P.T.O.

V-5/68 - 1400

(2)

Group - B

Answer any *four* of the following questions : 4×5=20

9. Briefly describe the methods of transformation techniques during RDT. 5
10. Describe the basic principle of Sanger's method of DNA sequencing. 5
11. What are 'molecular scissors'? Define isoschizomers and neoschizomers with suitable example. 1+4
12. Distinguish between expression vectors and cloning vectors. State two characteristic features of BACs. 3+2
13. Compare natural reproduction and animal cloning techniques in terms of their advantages and limitations. 5
14. What are VNTRs? Discuss the various steps involved in the DNA fingerprinting. 5

Group - C

Answer any *one* of the following questions :

10×1=10

15. Discuss the principles of stem cell technology and its various applications in animal biotechnology. 5+5
16. Write short notes on the following : 2½×4
 - (i) RT PCR
 - (ii) Western blotting
 - (iii) Knockout mice
 - (iv) DNA microarray

(3)

OR

[Microbiology]

Group - A

Answer any *five* of the following questions :

2×5=10

1. Briefly mention about the structure of peptidoglycan.
2. What do you mean by prion? Give example.
3. Differentiate between Capsule and Glycocalyx.
4. Write a short note on cyanophycin.
5. Write about the characteristic features of viroids.
6. Why acid-fast staining is used? Give reason.
7. What is transformation? Write its importance.
8. Differentiate between Simple media and Complex media.

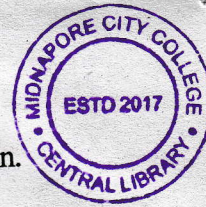
Group - B

Answer any *four* of the following questions : 5×4=20

9. Write about the Whittaker's five kingdom concept about bacteria including characteristic features.
10. Differentiate between plasmid and episome.
11. Write short notes on — Epidemic, Pandemic and Endemic with suitable examples.
12. Write about selective media and enrichment media with example.

P.T.O.

(4)



13. Differentiate between endotoxin and exotoxin.
14. Write about F⁺, F⁻ and Hfr.

Group - C

Answer any *one* of the following questions :

10×1=10

15. What are the different serotypes of Dengue virus. State the pathogenesis and mode of Dengue virus with diagram.
4+(3+3)
16. Differentiate generalized and special transduction. What is the importance of interrupted mating in conjugation?
6+4
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