

Total No. of Printed Pages:2

SUBJECT CODE NO: - F-6182
FACULTY OF SCIENCE AND TECHNOLOGY
M.Sc. (Sem-IV) (Zoology)
Examination December/January-2022-23
Applied Zoology-513

[Time:3:00 Hours]

[Max. Marks:80]

Please check whether you have got the right question paper.

N. B

- 1) Q.1 is compulsory.
- 2) Solve any five questions from Section B

Section A

20

Q1 Attempt the following multiple-choice questions

1. Restriction enzymes were discovered by
 - a) Smith and Nathans
 - b) Alexander Fleming
 - c) Berg
 - d) None
2. Bacteria protect themselves from viruses by fragmenting viral DNA with
 - a) Ligase
 - b) Endonuclease
 - c) Exonuclease
 - d) Gyrase
3. Klenow fragment is derived from
 - a) DNA Ligase
 - b) DNA Pol-I
 - c) DNA Pol-II
 - d) Reverse Transcriptase
4. Southern blotting is
 - a) Attachment of probes to DNA fragments
 - b) Transfer of DNA fragments from electrophoretic gel to a nitrocellulose sheet
 - c) Comparison of DNA fragments to two sources
 - d) Transfer of DNA fragments to electrophoretic gel from cellulose membrane
5. ELISA is
 - a) Using radiolabelled second antibody
 - b) Usage of RBCs
 - c) Using complement-mediated cell lysis
 - d) Addition of substrate that is converted into a coloured end product
6. The Golden Rice variety is rich in
 - a) Vitamin C
 - b) B-carotene and ferritin
 - c) Biotin
 - d) Lysine
7. The DNA fragments have sticky ends due to
 - a) Endonuclease
 - b) Unpaired bases
 - c) Calcium ions
 - d) Free methylation

8. Plasmids are used as cloning vectors for which of the following reasons?
- Can be multiplied in culture
 - Self-replication in bacterial cells
 - Can be multiplied in laboratories with the help of enzymes
 - Replicate freely outside bacterial cells
9. The human genome project was launched in the year
- 1980
 - 1973
 - 1990
 - 1989
10. The vaccines prepared through recombinant DNA technology are
- Third generation vaccines
 - First-generation vaccines
 - Second-generation vaccines
 - None

Section- B

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|----|--------------------------------------------------------------------------|----|
| Q2 | Describe Application of immunological principles (Vaccine, Diagnostics). | 12 |
| Q3 | Explain Tissue engineering | 12 |
| Q4 | Describe recombinant DNA technology. | 12 |
| Q5 | Explain transgenic animals- methodology and applications | 12 |
| Q6 | Describe Ribozyme display technology. | 12 |
| Q7 | Write brief account of biodiversity and food security. | 12 |
| Q8 | Describe assisted reproductive technologies. | 12 |