

QP CODE: 24900030



Reg No:.....

Name:.....

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
FIRST SEMESTER MGU-UGP (HONOURS) REGULAR
EXAMINATION NOVEMBER 2024

First Semester

Discipline Specific Core Course - MG1DSCBBT101, MG1DSCBTG100 -
FUNDAMENTALS FOR BIOTECHNOLOGY

(2024 ADMISSION ONWARDS)

Duration: 1.5 Hours

Maximum Marks: 50

**Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Interest (I),
Appreciation (Ap), and Skill (S)**

*Students should attempt atleast one question from each course outcome to enhance their overall
outcome attainability.*

[Learning Domain][CO No(s)]

Part A

Answer the Questions in One Word or Sentence

Answer all questions.

Each question carries 1 mark

- | | | |
|---|--|------------|
| 1 | Identify the organelle is known as power house of the cell? | [U] [1, 2] |
| 2 | Name the enzyme used in PCR? | [K] [1, 2] |
| 3 | What is the causative organism of sleeping sickness? | [U] [1, 2] |
| 4 | Give an example of RNA viruses. | [U] [1, 2] |
| 5 | Identify the type of immune cell that produces antibodies in response to antigens. | [K] [3] |
| 6 | Give an example of a structural protein. | [U] [1, 2] |
| 7 | Which fatty acid is found in fish oils? | [U] [1, 2] |
| 8 | What are the primary sources of dietary lipids? | [K] [1, 2] |
| 9 | Which enzyme relieves the supercoiling ahead of the replication fork? | [U] [2] |

- 10 Give an example for plasmid vector. [U] [2]
- (10 × 1 = 10)

Part B

Short Answer Questions

Answer any 4 questions.

Each question carries 3 marks

- 11 Give an outline of major milestones in biotechnology. [K] [1, 2]
- 12 Explain the difference between ceramides and sphingomylin. [U] [1, 2]
- 13 How are protozoa transmitted from one host to another? [U] [1, 2]
- 14 Define prions. [U] [1, 2]
- 15 What is the start codon, and which amino acid does it code for? [U] [2]
- 16 Explain the difference between monounsaturated and polyunsaturated fatty acids. [U] [1, 2]
- (4 × 3 = 12)

Part C

Short Essay Questions

Answer any 3 questions.

Each question carries 6 marks.

- 17 List out the major application of biotechnology and the career opportunity to the field of biotechnology [K] [1, 2]
- 18 Explain the replication of a virus. [U] [1, 2]
- 19 Differentiate between monohybrid and dihybrid crosses. [U] [1, 2]
- 20 Recite the differences between disaccharides and polysaccharides. [U] [1, 2]
- 21 Tabulate the difference between prokaryotic and eukaryotic transcription [K] [2]
- (3 × 6 = 18)

Part D

Essay Questions

Answer any 1 question (10 marks)

- 22 Explain the key components of the immune system and their functions. [An] [3]
- 23 Discuss with diagrams the steps involved in the process of replication of DNA. [U] [2]
- (1 × 10 = 10)

END OF THE QUESTION PAPER
