

REV-01
BMB/01/04

B.Sc. MICROBIOLOGY
THIRD SEMESTER (SPECIAL REPEAT)
MOLECULAR BIOLOGY
BMB-303

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

(Objective)

Time: 30 mins.

Choose the correct answer from the following:

1. The activation ofis required during translation.
a. rRNA b. tRNA
c. mRNA d. Amino acid
2. The stop codon codes for.....
a. Last amino acid b. No amino acid
c. Three amino acids d. Single amino acid
3. Number of amino acids found in protein is.....(Assume codons =1200)
a. 1200 b. 300
c. 600 d. 400
4. Amino acid pool is present in.....
a. Mitochondria b. Nuclease
c. Chloroplast d. Cytoplasm
5. Releasing factors binds at..... site on mRNA ribosome complex.
a. E b. A
c. P d. At any site
6. DNA polymerase is required for.....
a. Polymerization b. Uncoiling
c. Ligation d. Joining
7. Central dogma is:
a. DNA -Protein- RNA b. DNA -RNA-Protein
c. RNA -Protein- DNA d. RNA -DNA-Protein
8. Histone proteins are found in.....
a. DNA b. Protein
c. Nucleic acid d. Carbohydrate
9. Genes are the..... region of DNA.
a. Duplicate b. Non coding
c. Clone d. Coding
10. The mechanism by which mutated DNA is corrected is:
a. Repair b. Correction
c. Mutation d. All are correct

2023/08

SET
A

Full Marks: 70

Marks: 20

1 × 20 = 20

1. Deoxyribose sugar contains..... at carbon 2.
 - a. H and OH
 - b. H and H
 - c. OH and OH
 - d. None are correct
2. N is present atin purine.
 - a. 1,3,7,8
 - b. 1,3,7,9
 - c. 1,4,7,9
 - d. 1,5,7,9
3. Single strand binding proteins are involved in.....
 - a. Replication
 - b. Translation
 - c. Transcription
 - d. Repair mechanism
4. The first enzyme required for DNA replication is.....
 - a. Helicase
 - b. RNA polymerase
 - c. Topoisomerase
 - d. DNA polymerase
5. The nitrogen source used for semi conservative experiment was.....
 - a. Ammonium chloride
 - b. Ammonium sulfate
 - c. Ammonium nitrite
 - d. Ammonium nitrate
5. Primer is in transcription.
 - a. Not required
 - b. Required
 - c. Optional
 - d. Degraded
7. Transcription and translation are simultaneous in.....
 - a. Only in animal cells
 - b. Eukaryotes
 - c. Prokaryotes
 - d. Only in Plant cells
- l. The cap in RNA is:
 - a. 5'-3' triphosphate
 - b. 3'-3' triphosphate
 - c. 5'-5' triphosphate
 - d. 3'-5' triphosphate
- l. DNA is changed during:
 - a. Transcription
 - b. Replication
 - c. Translation
 - d. Mutation
- l. Lariat mechanism is a part of.....
 - a. Replication
 - b. Transcription
 - c. Translation
 - d. Post transcription modification

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(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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|---|--------|
| 1. Explain the importance types of RNA. | 10 |
| 2. What do you understand by genetic code? Explain the characteristics of genetic code. | 10 |
| 3. What is mutation? Explain different chemical and physical mutagens. | 2+8=10 |
| 4. Explain the experiment of semi conservative mode of DNA replication. | 10 |
| 5. Explain the structure of DNA. Differentiate the structures of ribose and deoxyribose. | 5+5=10 |
| 6. a) What do you mean by releasing factor? | 5 |
| b) Suggest the importance of releasing factor in translation. | 5 |
| 7. Explain the mechanism of rho dependent and rho independent mechanism of transcription termination. | 3+7=10 |
| 8. What is post transcriptional modification? Explain the cap structure of mRNA. | 6+4=10 |

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