



BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – M.Sc.(MB)-2022
Course Name – Molecular Biology
Course Code - MMBC201
(Semester II)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. *Choose the correct alternative from the following :*

- (i) select from the following the ultimate factor in eukaryotes that is being released from the peptide and ribosomal unit
 - a) eRRF
 - b) EF2
 - c) RF3
 - d) RF4
- (ii) Indicate the direction of the synthesized transcript that is produced by RNA polymerase
 - a) 3'→5' direction on 3'→5' strand
 - b) 5'→3' direction on 5'→3' strand
 - c) 3'→5' direction on 5'→3' strand
 - d) 5'→3' direction on 3'→5' strand
- (iii) Select from the following that The complex of RNA polymerase, DNA template and new RNA transcript is called
 - a) transcription bubble
 - b) replication bubble
 - c) a translation bubble
 - d) none of these
- (iv) In Prokaryotes, identify the ribosomal binding site on mRNA
 - a) Hogness sequence
 - b) Shine-Dalgarno sequence
 - c) Pribnow sequence
 - d) TATA box
- (v) Recall, denaturation of DNA molecule can be studied by measuring its absorbance at a wave length
 - a) 260 nm
 - b) 560 nm
 - c) 470 nm
 - d) 570 nm
- (vi) In eukaryotic replication helicase loading occurs at....locate the right phase
 - a) G1 phase
 - b) G0 phase
 - c) S phase
 - d) G2 phase
- (vii) Choose the name of the codon stretch that is in the middle of AUG and a stop codon

7. DNA replication is bidirectional and discontinuous; explain your understanding of those concepts (5)
8. Interpret your views on the rolling circle method of Replication over eukaryotic one (5)
9. Illustrate with example why regulation of transcription frequently involves the promoter and protein interactions with the promoter (5)
10. Diagram the spliceosome mediated RNA splicing mechanism (5)
11. "In E. coli, a particular tRNA normally has the anti-codon 5'-GGG-3', but because of a mutation in the tRNA gene, the tRNA has the anticodon 5'-GGA-3' a. Organize the codon the normal tRNA would recognize b. Organize the codon the mutant tRNA would recognize (5)
12. The cleavage and polyadenylation specificity factor binds to the upstream of Poly A signal... dissect in detail (5)

OR

Glycosylation is important in protein trafficking and cell interactions__Dissect it (5)
