



MCB-1603120102020600 Seat No. _____

M. Sc. (Biochemistry) (Sem. II) (CBCS) Examination

April / May - 2018

CBC - 6 : Molecular Biology

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

1 Answer briefly any **seven** of the following questions : **14**

- (A) What is C value paradox?
- (B) What are consensus sequences?
- (C) State the difference between probes and primers.
- (D) What is the special feature of enzyme reverse transcriptase?
- (E) Explain the term nucleosome.
- (F) State the significance of COS site in bacteriophage.
- (G) What is phagemid?
- (H) Explain: chromosome walking.
- (I) What are exons and introns?
- (J) Explain the process of proof reading by DNA polymerase?

2 Answer any **two** of the following questions : **14**

- (A) Explain any two variants of PCR with their applications.
- (B) Write a detail note on post transcriptional modifications.
- (C) Enlist various major proteins and enzymes required for DNA replication along with their functions.

3 (A) Write a detail note on process of transcription in prokaryotes. **7**

(B) Discuss the structure of ribosome with diagram. **7**

OR

3 (A) What is DNA sequencing? Explain Maxam-Gilbert sequencing method. **7**

(B) Write a detail note on RAPD and RFLP. **7**

- 4 Answer the following questions : 14
- (A) Discuss Plasmids in detail.
 - (B) What is lac operon? Explain regulation of lac operon by lac repressor.
- 5 Answer the following questions : (Any **Two**) 14
- (A) Write a note on Southern blotting.
 - (B) Explain the organization of chromosome in Eukaryotes.
 - (C) State properties and applications of BAC and YAC as cloning vectors.
 - (D) Explain the technique of DNA fingerprinting.
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