



Seat No. _____

HP-1603120102020600

M. Sc. (Sem.-II)

(CBCS) Examination

April - 2023

CBC-6 : Biochemistry

(Molecular Biology)

Time : Hours / Total Marks : **70**

- 1** Answer briefly any seven of the following questions: **14**
- (A) Define term: Nucleotide, Nucleoside.
 - (B) Explain briefly about the Role of 13 mer and 9 mer repeats.
 - (C) What is codon family?
 - (D) What are A and P sites?
 - (E) Explain briefly about the Central dogma of molecular biology.
 - (F) What are A and P sites?
 - (G) Define term: Hybridization.
 - (H) What is Plasmid?
 - (I) What is Single Nucleotide Polymorphisms?
 - (J) Write about the role of X-Gal and IPTG in Transformation.
- 2** Answer any two of the following questions: **14**
- (A) Explain Eukaryotic DNA replication.
 - (B) Give an account of regulators and inhibitors of DNA replication.
 - (C) Write note on SCAR analysis.
- 3** (A) Write about the Mechanism of translation in Prokaryotes. **7**
- (B) Describe characteristics of genetic code along with its importance. **7**

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- (C) Give details about the genomic organizations in Prokaryotes. 7
- (D) Discuss in detail about the Principle and applications of PCR and mention about the various factors affecting PCR. 7
- 4 Answer the following questions: 14
- (A) Write a detailed note on process of transcription in prokaryotes.
- (B) Write about the methodologies and applications of RFLP and RAPD.
- 5 Answer the following questions: (Any two) 14
- (A) Explain regulation of lactose utilization with suitable diagram.
- (B) State properties and applications of Phage vectors and Cosmid.
- (C) Describe any two methods of nucleic acid sequencing in detail.
- (D) Write note on Sanger sequencing methods along with its applications.
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