Time: 2 hrs **Total Marks: 40**

N.B.: All Questions are compulsory.

Q1. (a) Name two pyrimidine bases present in RNA. **(01)**
(b) Name two drugs which inhibit protein synthesis **(01)**
(c) Explain term exon **(01)**
(d) Define DNA polymorphism **(01)**
(e) The nicks in DNA are sealed by the enzyme _____ **(01)**
(f) Give the role of elongation factor in transcription **(01)**
(g) Explain how acyclovir inhibit DNA polymerase **(02)**

Q2.(a) Differentiate between prokaryotic and eukaryotic translation **(03)**

OR

(a) Give details of activation of amino acid in translation **(03)**
(b) Describe gene regulation in eukaryotes **(03)**
(c) Explain base excision process for DNA repair. **(02)**

Q3. (a) Explain termination step in prokaryotic transcription. **(03)**
(b) Describe initiation stage of DNA replication in eukaryotic cells. **(03)**

OR

(b) Describe elongation and termination steps of DNA replication in prokaryotic cells. **(03)**
(c) Write note on minisatellite DNA. **(02)**

Q4. (a) Draw a neat labelled diagram for Holliday model for DNA recombination transformation. **(03)**
(b) Give a schematic representation of chemical synthesis of peptide. **(03)**

OR

(b) Enlist various post-transcriptional modifications and discuss any one in detail. **(03)**
(c) Explain different types of mutations. **(02)**

Q5. (a) Explain Rolling circle model for replication. **(02)**
(b) Compare and contrast biosynthesis and chemical synthesis of peptide. **(02)**
(c) Write note on amino group protection in peptide synthesis. **(02)**
(d) Explain mismatch repair process for DNA repair. **(02)**

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