

PAPER V - MOLECULAR BIOLOGY

N1x5

- Unit 1. Central dogma, transcription and translation – prokaryotic and eukaryotic gene structure.
- Unit 2. DNA structure, different models, *in vitro* synthesis and replication – enzymes involved – Reverse transcriptase.
- Unit 3. RNA structure, RNA polymerase, primosomes and priming, synthesis and splicing
- Unit 4. Protein synthesis, DNA binding proteins - cellular organelles – structure function.
- Unit 5. Transcriptional and translational controls - cellular regulation, gene expression in viruses- Role of inhibitors and analogues.

Reference:

- i. The Molecular biology of the cell. III edition (1994). Alberts *et al.*, Garland Publishing inc.
- ii. The Molecular Biology of the Gene – J.D. Watson *et al.*,
- iii. Molecular Cell Biology (1995) – Lodish *et al.*, Scientific American Press
- iv. Genes VI (1996) - Lewin. Oxford University Press.

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