



RAN-2406120201010503

M. D. (Biochemistry) Examination September - 2025

Theory Paper - III (Set - 1)

Time: 3 Hours]

[Total Marks: 100

સૂચના : / Instructions

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

M. D. (Biochemistry)

Name of the Subject :

Theory Paper - III (Set - 1)

Subject Code No.: **2406120201010503**

Seat No.:

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Student's Signature

- Q. 1.** Explain quantitative PCR? Discuss various dyes and probes used for qPCR. How amplification of DNA is detected, identified and quantified in qPCR. (25)
- Q. 2.** Write Notes on: (25)
- Synthetic inhibitor of purine synthesis and pyrimidine synthesis
 - DNA packaging in metaphase chromosomes
 - Elongation of the leading and lagging strands during replication
 - DNA damage - causes, types, repair pathways and repair fidelity
 - Structural changes in protein after translation
- Q. 3.** Write Notes on: (25)
- Structure and function of polyA tail and GTP-capping
 - Degeneracy of genetic code, concept and mechanism of wobbling phenomenon
 - Propagation of epigenetic signal after DNA replication
 - Methods of DNA isolation
 - si RNA and miRNA

Q. 4. Write Notes on:

(25)

- A. LH, FSH, beta HCG in woman and its clinical importance
 - B. Mechanism of immunoglobulin diversity
 - C. Trans and Cis factors for regulation of gene expression
 - D. Flowchart for investigation of hypothyroidism
 - E. Newborn Screening of TSH
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