

**RAN-2406120201010504****M. D. (Biochemistry) Examination September - 2025****Theory Paper - IV (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 - IV (Set - 1)**Subject Code No.: **2406120201010504**

Seat No.:

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Student's Signature

- Q. 1.** What is HPLC? What are components of the equipment? Explain various types of columns and detectors. Explain role of internal standard in HPLC. Give details of pre column and post column derivatization **(25)**
- Q. 2.** **Write Notes on:** **(25)**
- Hemoglobin variant analysis with HPLC
 - Closed vs Open system clinical laboratory equipments
 - Role of Iron, TIBS, TS and Ferritin in investigation of anemia
 - Order of Draw in vacuum tube blood samples. Is it essential if a syringe is used to collect samples?
 - eGFR
- Q. 3.** **Write Notes on:** **(25)**
- Principle of Glucose electrode in Blood Gas analysers
 - Principle of Biuret, turbidimetry and pyrogallol red methods for protein estimation
 - Pediatric sample collection
 - Patient data as quality control tool
 - Post analytical errors in clinical laboratory

Q. 4. Write Notes on:

(25)

- A. Characteristics of a good EQAS and its comparison among EQA suppliers in India
 - B. CLSI guideline EP9 for method comparison
 - C. Criteria for diagnosis of diabetes mellitus
 - D. Tandem mass spectrometry - principle and clinical importance
 - E. Role of Barcoding in clinical laboratory
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