



A Charutar Vidya Mandal's Institution
VP & RPTP SCIENCE COLLEGE

(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



M.SC. SEMESTER-II EXTERNAL EXAMINATION-2025
PS02MAZOO02, (MEDICAL BIOCHEMISTRY)

DATE: 25/03/2026

TIME: 10:45 TO 01:15 PM

MARKS: 50

Q 1 MULTIPLE CHOICE QUESTIONS.

(10)

1. Which vitamin deficiency leads to pernicious anaemia?

- | | |
|----------------|--------------|
| a) Vitamin A | c) Vitamin C |
| b) Vitamin B12 | d) Vitamin D |

2. Which factor enhances iron absorption?

- | | |
|--------------------------|----------------|
| a) High gastric pH | c) Phytic acid |
| b) Presence of Vitamin C | d) Calcium |

3. The most common oncogene in human cancers is:

- | | |
|----------|--------|
| a) BRCA1 | c) RAS |
| b) TP53 | d) MYC |

4. Which enzyme is primarily used as a marker for myocardial infarction?

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|-----------------------------------|-------------------------------|
| a) Creatine kinase-MB (CK-MB) | c) Alkaline phosphatase (ALP) |
| b) Alanine aminotransferase (ALT) | d) Amylase |

5. The primary site of calcium absorption in the body is:

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|--------------|-------------------------|
| a) Stomach | c) Large intestine |
| b) Esophagus | d) Duodenum and jejunum |

6. Which type of haemoglobin is dominant in foetal life?

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|--------|--------|
| a) HbA | c) HbS |
| b) HbF | d) HbH |

7. Heme is broken down into which pigment first?

- | | |
|---------------|----------------|
| a) Biliverdin | c) Urobilin |
| b) Bilirubin | d) Stercobilin |

8. The primary initiating event in atherosclerosis is:

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|--------------------------|--------------------------|
| a) Deposition of calcium | c) Formation of thrombus |
| b) Endothelial injury | d) Vasodilation |

9. The Warburg effect in cancer refers to:

- | | |
|---------------------------------|------------------------------------|
| a) Increased aerobic glycolysis | c) Increased oxygen consumption |
| b) Decreased lactate production | d) Enhanced mitochondrial function |

10. The main causative agent of cholera is:

- | | |
|---------------------------|---------------------|
| a) Escherichia coli | c) Salmonella typhi |
| b) Listeria monocytogenes | d) Vibrio cholerae |



Q2. (A) Write a short note on biochemical functions of vitamin D. (05)

(B) Describe the iron absorption and transport in details. (05)

OR

Q2. (A) Discuss the clinical role of serum ALP in diagnosing bone diseases. (05)

(B) Write a short note on functions and dietary sources of Vitamin C. (05)

Q3. (A) Describe the various types of haemoglobin. (05)

(B) Describe the biosynthesis of collagen, its types, and associated disorders. (05)

OR

Q3. (A) Explain the biochemical and genetic tests used in the diagnosis of birth defects. (05)

(B) Explain the composition of gastric juice and the tests for gastric function. (05)

Q4. Explain the mechanism of atherosclerosis and its risk factors in details. (10)

OR

Q4. Describe the biochemical mechanisms involved in Parkinson's disease. (10)

Q5. (A) Explain the biochemical mechanisms of carcinogenesis and metastasis. (05)

(B) Describe the pathogenesis and biochemical basis of tuberculosis. (05)

OR

Q5. (A) Explain the different modes of transmission of infectious diseases. (05)

(B) Discuss the biochemistry of cholera in details. (05)

