

Note: Figures to the right indicates full marks
 Draw diagrams and flow charts where appropriate.
 Answers should be legible and to the point.

Start New Question on separate page. Write Question and Sub-question No.

SECTION-1

Q.1. Short Notes: (2 out of 3)

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- Describe catabolism of heme. Add a note on jaundice.
- Describe the chemistry, biochemical functions, daily requirement, dietary sources and deficiency manifestations of vitamin A.
- Describe the process of transcription in prokaryotes. Add a note on inhibitors of transcriptions.

Q.2. Short Notes (4 out of 6)

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- Hyperuricemia and gout.
- Electrophoresis techniques- principle, procedure and applications.
- Detoxification reactions with example
- Write transmethylation reactions with example and its significance.
- Write serotonin pathway of tryptophan metabolism.
- Tumor markers

SECTION-2

Q.3. Read the following case and answers the questions:

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A 52 years old, chronic alcoholic admitted to the hospital in a serious condition. His daughter found him in an unconscious state when she had come to see him in the morning. One and a half empty bottles of alcohol were found in the room. When the alcohol was examined for its contents it was found to be containing high amount of methanol.

Doctors on duty diagnosed that it was a case of methanol intoxication and decided to start the intravenous infusion of ethanol.

- Why methanol is toxic? How methanol and ethanol are metabolized in the body?
- Write the name of specific enzymes and its class which acts on methanol. Write the classification of enzymes.
- Why ethanol is given as treatment in methanol poisoning? Write its principle and biochemical basis.
- Give the examples of inhibitors of enzymes which have clinical applications (name of the inhibitors- enzyme inhibited- clinical condition, any two examples).
- Give the examples of enzymes used in the diagnosis of liver diseases and chronic alcoholism (any four examples).

Q.4. Answer in few lines (5 out of 7)

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- Glutathione- functions.
- Excess of ammonia is toxic to the brain, explain its biochemical basis.
- Altered protein structure produces abnormality. Explain with examples
- Vitamin C deficiency causes bleeding gums, explain its biochemical basis.
- Inhibitors of protein synthesis are used as antibiotics. Explain with examples (any two).
- In absence of phenylalanine amino acid, tyrosine become essential.
- Applications of PCR (any four).

Q. 5. MCQ (separate question paper is provided)

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