

**M. Sc. (Medical Biotechnology) Sem-I (Choice Based Credit System) :**

**SUMMER - 2019**

**SUBJECT : MEDICAL BIOCHEMISTRY**

Day : Wednesday

Time : 02.00 PM TO 05.00 PM

Date : 03/04/2019

**S-2019-1499**

Max. Marks : 60

**N. B. :**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Answer **ANY TWO** from **Q. No. 2, 3, 4 and from Q. No. 6, 7, 8.**
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in '**SAME**' answer books.
- 4) Draw neat and labelled diagram **WHEREVER** necessary.

**SECTION – I**

- Q. 1** Answer **ANY FIVE** of the following question in brief **(10)**
- a) Explain the hormone sensitive lipase.
  - b) Describe the pathogenic condition of impaired fasting glucose.
  - c) Discuss fetal hemoglobin.
  - d) Enumerate the complications of Diabetes mellitus.
  - e) Give any four functions of plasma proteins.
  - f) Mention the functions of lipoproteins.
- Q. 2** Answer the following question in brief **(10)**
- a) Explain the procedure and clinical significance of glucose tolerance test.
  - b) Describe  $\beta$  - Oxidation of fatty acids.
- Q. 3** Explain the following: **(10)**
- a) Biomedical implications of hemoglobin and myoglobin.
  - b) Urea Cycle.
- Q. 4** Write short notes on **ANY TWO** of the following: **(10)**
- a) Glycosuria
  - b) Ketone bodies
  - c) Fatty liver

**SECTION – II**

- Q. 5** Answer the following: **(10)**
- a) Discuss oxidative stress and antioxidants.
  - b) What are isoenzymes? Explain the applications of enzymes as therapeutics agents.
- Q. 6** Answer **ANY TWO** of the following: **(10)**
- a) Regulation of electrolyte balance.
  - b) Explain the principle of spectrophotometer and describe different types of spectrophotometers.
  - c) Describe detoxification of xenobiotics.
- Q. 7** Write short notes on the following: **(10)**
- a) Acidosis and alkalosis
  - b) Chromatography
- Q. 8** Define vitamins. Describe their biochemical role, common food sources and deficiency problems of B complex vitamins. **(10)**

**OR**

Ranjan, a 55 year old chronic smoker attended casualty with exacerbation of bronchial asthma. The acid base report is pH = 7.3,  $p\text{CO}_2$  = 90 mm Hg,  $\text{HCO}_3^-$  = 26 mg/l,  $\text{H}_2\text{CO}_3$  = 2.8 meq/l. Give your interpretation and justify it.

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