



## Biochemistry & Clinical Pathology

22223

20223

3 Hours/ 80 Marks

Seat No. \_\_\_\_\_

**Instructions** - (1) All Questions are Compulsory

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches whenever necessary

(3) Figures to the right indicate full marks.

(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

(5) In case student has attempted sub-question of Question No. 3 more than once, only first attempt should be considered for assessment.

**1. Attempt any SIX of the following:**

**30 Marks**

- Discuss TCA cycle along with its energetics.
- What are carbohydrates? Classify them with suitable example.
- What is enzyme Inhibition? Explain competitive and Non-competitive inhibition.
- What is Embden-Meyerhof Pathway? Discuss various stages of the pathway.
- Explain primary and secondary structure of protein.
- Explain routinely performed tests to assess the functions of kidney.
- Discuss in brief about  $\beta$ -oxidation of fatty acids.

**2. Attempt any TEN of the following:**

**30 Marks**

- Write biochemical role, deficiency condition and symptoms of Vitamin C.
- Explain the process of ETC
- What are abnormalities of red cells? Explain.
- What are lipids? Classify them with suitable examples.
- Discuss the functions, deficiency and recommended dietary requirement of calcium
- Explain structure and functions of DNA.
- Define dehydration Explain causes, symptoms and treatment of dehydration
- Draw the structure of cholesterol and give functions of it.
- Enlist different abnormal constituents of urine.
- Discuss in detail about Lipolysis
- What is the clinical significance of lipid profile?

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### 3. Attempt ALL questions:

20 Marks

- a) Draw the structure of glucose.
- b) Write any two functions of RNA
- c) Name any two sulfur containing amino acids
- d) Give two Pharmaceutical application of enzymes.
- e) Write any two functions of lymphocytes.
- f) The chemical name of vitamin D is \_\_\_\_.
- g) Define biotechnology.
- h) Co-enzyme form of vitamin riboflavin is \_\_\_\_.
- i) Name the site for protein synthesis in the cell.
- j) Write deficiency diseases of vitamin Thiamin.

#### **k) The extra cellular fluid comprises \_\_\_\_.**

- i) Tissue cells
- ii) Plasma
- iii) Plasma and interstitial fluid
- iv) Interstitial fluid

#### **l) Synthesis of cholesterol and steroid is the function of**

- i) Nucleus
- ii) Golgi apparatus
- iii) Endoplasmic reticulum
- iv) Peroxisomes

#### **m) The nitrogen base found in RNA but not in DNA is \_\_\_\_.**

- n) The protein part of holoenzyme is known as
- i) Active site
- ii) Allosteric site
- iii) Co-enzyme
- iv) Apoenzyme
- o) Where does oxidative phosphorylation take place?

#### **p) Body water is regulated by the hormone**

- i) ADH
- ii) ACTH
- iii) FSH
- iv) Epinephrine


#### **q) Biotechnology has made contribution in which areas**


- i) Medicine
- ii) Industrial
- iii) Environmental
- iv) All of these


- r) Give significance of SGPT Test.
- s) Write full form of ECF and ICF.
- t) Rothera's test is for detection of \_\_\_\_ in the urine.


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