

**Q.P. Code: 137005**

**Reg. No.....**

**First Professional B.S.M.S Degree Regular/Supplementary Examinations  
March 2025**

**Uyir Vedhiyiyal (Bio Chemistry)**

**(2021 Scheme)**

**Time: 3 hrs**

**Max. Marks: 100**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

**1. Multiple Choice Questions**

**(20x1=20)**

**The Answers to MCQ questions (Q.No. i to Q.No. xx) shall be written continuously on the first two writing sheets (ie Page No. 3 & 4) only**

- Hyaluronic acid is seen in
  - Cartilage
  - Synovial fluid
  - Cornea of eyes
  - Outer shell of insect
- A carbohydrate which cannot be digested in human gut is
  - Cellulose
  - Starch
  - Glycogen
  - Maltose
- The functionally active form of vitamin-D is
  - Cholecalciferol
  - Erocalciferol
  - Calcitriol
  - Dehydrocholesterol
- Shine-Dalgarno nucleotides sequence of mRNA found in
  - Prokaryotic cell
  - Eukaryotic cell
  - Both a & b
  - None of the above
- Van Gierke's disease due to the defect in the enzyme.
  - Glucose - 1- phosphatase
  - Glucose - 6- phosphatase
  - Glucokinase
  - Phosphorylase
- How many replication bubbles are formed in eukaryotic DNA molecule
  - Single bubble
  - Double bubbles
  - Multiple bubbles
  - None of the above
- The major fuel for the brain after prolonged starvation is
  - Glucose
  - Fatty acid
  - Ketone bodies
  - Glycerol
- Non-protein nitrogenous substances in blood include all of the following except
  - Urea
  - Uric acid
  - Creatinine
  - Inositol
- Obesity is accumulation of \_\_\_\_\_ in the body.
  - Water
  - NaCl
  - Fat
  - Proteins
- The most active mineralocorticoid hormone is
  - Cortisol
  - Aldosterone
  - 11-Deoxycorticosterone
  - Corticosterone
- In obstructive jaundice, urinary bilirubin is
  - Absent
  - Increase
  - Present
  - Present in small amount
- The first codon to be translated on mRNA is
  - AUG
  - GGU
  - GGA
  - AAA
- The Vitamin B1 deficiency causes
  - Ricket
  - Nyctalopia
  - Beriberi
  - Pellagra
- The lab test more recent and sophisticated is employed to diagnose the HIV infection
  - ELISA
  - PCR
  - Western blots technique
  - Northern blots technique
- Precursor for the synthesis of steroid hormones is
  - Cholecalciferol
  - Cholesterol
  - Dehydrocholesterol
  - Pregnenolone

**(PTO)**

- xvi. Hyperglycemic hormone secreted by pancreas  
a) Growth hormone   b) Glucagon   c) Insulin   d) Epinephrine
- xvii. A lipotropic factor is  
a) Choline   b) Palmitic acid   c) Calcium   d) Vitamin C
- xviii. Water and electrolyte balance is regulated by  
a) ADH   b) Renin-angiotensin-aldosterone system  
c) Atrial natriuretic factor   d) All of them
- xix. Menke's disease is due to an abnormality in the metabolism of  
a) Iron   b) Manganese   c) Magnesium   d) Copper
- xx. Dental caries occur due to  
a) Drinking water containing less than 0.5 ppm of fluorine  
b) Drinking water containing greater than 2.0 ppm of fluorine  
c) Drinking water containing high calcium  
d) Drinking water containing heavy metals

### Short Answer Questions

(8x5=40)

2. Write the types and functions of Phospholipids.
3. Name any four trace elements and mention the biological functions.
4. Draw and explain in detail about Urea cycle.
5. Write short notes on mechanism of glucose absorption.
6. What is the role of Cytochrome p450 in detoxification.
7. Discuss primary and secondary immune response.
8. What is porphyria. Classify different types of porphyrias.
9. Describe the process of DNA replication.

### Long Answer Questions

(4x10=40)

10. Describe the reactions of the citric acid cycle, and its Energetics.
11. Give an account on hormones of the adrenal cortex.
12. Describe the metabolic role of folic acid and its deficiency manifestation.
13. List the main function of kidneys and the common renal function test.

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