

23242

3 Hours / 80 Marks



20223

Seat No. 

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- Instructions* –
- (1) All Questions are Compulsory.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

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

**30**

- a) Define carbohydrate and write classification with examples.
- b) What are Proteins? Briefly explain their biological role. Explain secondary structure of proteins.
- c) Discuss different factors affecting enzyme activity.
- d) What is kreb cycle? Mention steps in kreb cycle.
- e) Explain biological oxidation with ETC and oxidative phosphorylation.
- f) Discuss urea cycle and decarboxylation.
- g) Discuss the functions of liver. Explain liver function test.

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

**30**

- a) Draw the structure and enlist any two functions of cholesterol in the body.
- b) Explain the following -
  - i) Triglycerides
  - ii) Fatty liver
  - iii) Emulsification test
- c) Explain the structure of DNA.
- d) Describe Vitamin A. Its chemical nature and deficiency diseases.
- e) Give an account of metabolism of fats with reference of  $\beta$ -oxidation.
- f) What are ketone bodies? Discuss formation of Ketone bodies.
- g) Give the functions of following -
  - i) Sodium
  - ii) Chloride
  - iii) Cobalt
- h) What is dehydration? Discuss its causes and ORT.
- i) Write in detail about renal function test.
- j) Discuss about abnormal constituents of urine and their significance.
- k) Write about abnormal RBCs and related diseases.

P.T.O.



3. Attempt ALL of the following:

- a) Which one is the largest organelle in the cytoplasm?
- |                      |                           |
|----------------------|---------------------------|
| i) Lysosomes         | ii) Mitochondria          |
| iii) Golgi apparatus | iv) Endoplasmic reticulum |
- b) The cellular organelles called suicidal bags are \_\_\_\_\_
- |                |                   |
|----------------|-------------------|
| i) Lysosome    | ii) Ribosome      |
| iii) Nucleolus | iv) Golgi complex |
- c) Draw the structure of glucose.
- d) Name one optically inactive aminoacid.
- e) Name any two sulfur containing aminoacids.
- f) Define Vitamins.
- g) Write any two functions of RNA.
- h) What is holoenzyme?
- i) Enlist any two functions of lipids.
- j) Write any two functions of Vitamin C.
- k) The deficiency of Vitamin B<sub>1</sub> causes \_\_\_\_\_
- |                 |               |
|-----------------|---------------|
| i) Xerophthemia | ii) Beri-Beri |
| iii) Pellegra   | iv) Scurvy    |
- l) Name the coenzymes of Vitamin B<sub>6</sub> and Vitamin B<sub>2</sub>.
- m) What is Glycogenolysis?
- n) Body water is regulated by the hormone \_\_\_\_\_
- |          |                 |
|----------|-----------------|
| i) ADH   | ii) ACTH        |
| iii) FSH | iv) Epinephrine |
- o) Enlist any two functions of water.
- p) Explain the terms ECF and ICF.
- q) The term biotechnology was coined in 1919 by \_\_\_\_\_
- |                   |                        |
|-------------------|------------------------|
| i) Karl Ereky     | ii) Alexander Flemming |
| iii) James Watson | iv) Francis Crick      |
- r) Define "biotechnology".
- s) ALT is also known as \_\_\_\_\_.
- |                                  |                               |
|----------------------------------|-------------------------------|
| i) Alanine amino transferase     | ii) Amino leucine transferase |
| iii) Aspartate amino transferase | iv) None of these             |
- t) What is Rothera's test?
- \_\_\_\_\_