Model Question Paper

For Kashmir Division 2010 Regular Exam Only

Roll No.....

Subject Biochemistry

Maximum Marks --- 60

Time Allowed – 3 Hours (Fifteen Minutes Extra to read the question paper)

Do questions from Part A or Part B or from both Part A and B Part of maximum 60 marks as per your preparation.

Part A

(Long Answer Type Questions)

1. Define Hormone and write down the characteristics of Steroid Hormones.

Or

Describe in brief the Chemistry and Biochemical functions of Prostaglandins. 5

2. Explain the Biochemical functions of Thyroid hormones.

Or

What is Calcitonin ? Give the chemistry as well as biochemical functions of Calcitonin. 5

3. Define Enzyme and give the brief classification of Enzymes.

Or

Describe the various factors affecting the Enzyme activity. 5

4. Explain in brief the Phenomenon of β-oxidation.

Or

Describe the mechanism of Ketogenesis. 5

P. T. O.

5. Describe the Biosynthesis of Pyrimidines-Nucleotides.

Or

Explain the Phenomenon of Purine Biosynthesis. 5

(Short Answer Type Questions)

6. Write a short note on Biochemical function of Mineralocorticoid. 3

7. Classify the hormones based on Chemical nature. 3

8. Write a note on Biochemical function of two hormones secreted from Adrenal Medulla. 3

9. Differentiate between Isoenzyme and Coenzyme. 3

10. Write a short note on Enzyme assay. 3

11. What is the effect of Lipase on Lipids. 3

12. What is "Salvage pathway" ? 3

(Very Short Answer Type Questions)

13. The following very short answer type questions of two marks, each may be answered in a few sentences or as required.

    (a) What do you mean by the term Prostaglandin ? 2

    (b) What are Leucotrienes ? 2

    (c) Write down the symptoms of Hyper-Uricemia gout. 2

    (d) Write any four biochemical functions of Cholesters. 2

(Objective Type Questions)

14. Choose the correct/most appropriate answer and write it in your Answer-book :

(i) Glucagon is antagonistic hormone of

A. Insulin

B. MSH

C. GH

D. LH. 1

(ii) The factor, responsible for the increase of the rate of a biological process for a 10°C temperature is called

A. Q 10

B. Coenzyme

C. IQ

D. None of these. 1

(iii) In which organ triacyl glycerol is degraded to fatty acids

A. Liver

B. Stomach

C. Intestine

D. Rectum. 1

(iv) Cholesterol is the precursor of

A. Vitamin A

B. Vitamin B

C. Vitamin C

D. Vitamin D. 1

(v) Lesch-Nyhan syndrome is due to deficiency of

A. Hypoxanthine-guanine phosphoribosyl transferase

B. Gluco-fructo transferase

C. Both A and B

D. None of the above. 1

(vi) Uracil + ribose-1-phosphate $\rightleftharpoons$ ..... + ... (fill up) 1

Or

What is RNA processing ? Explain the different Phenomena of RNA processing. 5

5. What is Genetic Code ? Explain in brief that genetic code is a triplet not singlet or doublet.

Or

Describe in brief the different steps involved in the process of Translation. 5

(Short Answer Type Questions)

6. Differentiate between Aerobic and Anaerobic glycolysis. 3

7. Explain the Phenomenon of Interconversion of Hexoses. 3

8. Write short note on Cyclic Phosphorylation. 3

9. Explain in brief Phenylketonuria (PKU). 3

10. What do you mean by Alkaptonuria ? 3

11. Explain the Phenomenon of RNA Chain Elongation. 3

12. Explain Wobble Hypothesis in brief. 3

(Very Short Answer Type Questions)

13. The following very short answer type questions of two marks, each may be answered in a few sentences or as required.

(a) Why TCA is said to be amphibolic ? 2

(b) What is Point mutation and Silent mutation ? 2

(c) What is RNA primer ? 2

(d) What is Sigma factor ? 2

(Objective Type Questions)

14. Choose the correct/most appropriate answer and write it in your Answer-book :

(i) In aerobic glycogenesis ATP mols. for ned number as

A. 8 mols

B. 6 mols

C. 38 mols

D. 36 mols. 1

(ii) In Kreb's cycle how many intermediate compounds are formed

A. 9

B. 10

C. 11

D. None of the above. 1

(iii) The reaction of Transamination involves the transfer of the amino group from an amino acid

A. Keto acid

B. Acetyl coenzyme—A

C. Fatty acid

D. None of the above. 1

(iv) When Pyruvate changes to Oxaloacetate the reaction Catalysis in (Mitochondria/ E.R./Nucleolus). Choose the correct one. 1

(v) Replication of DNA takes place in

A. S-phase

B. G_1-phase

C. G_2-phase

D. T_2-phase. 1

(vi) Which of the following is the principle enzyme engaged in Polymerisation activity ?

A. α-DNA Polymerase

B. β-DNA Polymerase

C. γ-DNA Polymerase

D. All of these. 1