



63113

First B.P.T.H. (2012) Examination, Winter 2018
BIOCHEMISTRY

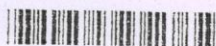
Total Duration : 2 Hours

Total Marks : 40

- Instructions :**
- 1) Use **blue/black** ball point pen only.
 - 2) **Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.
 - 3) **All** questions are **compulsory**.
 - 4) The number to the **right** indicates **full** marks.
 - 5) Draw diagrams **wherever** necessary.
 - 6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
 - 7) **Use** a common answerbook for **all** Sections.

1. Short answer question (**any five** out of six) : (5×3=15)
 - a) Compare the functions of DNA and RNA.
 - b) Describe the role of cyclic AMP as a second messenger.
 - c) Explain Liver function tests based on detoxification function.
 - d) What are Kwashiorkor and marasmus ? Compare their features.
 - e) Write note on dehydration.
 - f) State the functions and deficiency disorders of iron.

 2. Short answer question (**any five** out of six) : (5×5=25)
 - a) Define the isoenzymes. Write the diagnostic importance.
 - b) Describe sources, daily requirement, functions and deficiency manifestations of vitamin C.
 - c) What are the ketone bodies ? Write an account on ketogenesis with its regulation.
 - d) Define proteins and classify functionally with suitable examples.
 - e) Draw flow chart of glycolytic pathway and write its significance.
 - f) Write a note on obesity.
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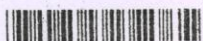
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 - 7) **Use** a common answerbook for **all** Sections.

1. Short answer question (**any five** out of six) : (5×3=15)
 - a) Name ketone bodies. Elaborate the pathway of ketogenesis.
 - b) Explain factors affecting enzyme action.
 - c) Write a note on specific dynamic action.
 - d) Draw schematic representation of Citric acid cycle.
 - e) Discuss functions of calcium.
 - f) Write short on Gout.

2. Short answer question (**any five** out of six) : (5×5=25)
 - a) Describe mechanisms and biochemical events during muscle contraction.
 - b) Give an account of diagnostic use of enzymes and isoenzymes.
 - c) Define proteins. Classify proteins depending on their functions with suitable examples.
 - d) Classify hormones on basis of their action with suitable examples. Explain role of cAMP as second messenger of hormone action.
 - e) Explain oxidation of palmitic acid along with its energetics.
 - f) Write dietary sources, RDA, biochemical functions and deficiency manifestations of Vitamin B1.



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 - 7) **Use** a common answerbook for **all** Sections.

1. Short answer question (**any five** out of six) : **(5×3=15)**
 - a) Write note on cardiac enzymes.
 - b) Mechanism of steroid hormone action.
 - c) Discuss biochemical events during muscle contraction.
 - d) Define specific Dynamic Action and give its significance.
 - e) Discuss Transamination and its significance. Add a note on diagnostically important Transaminases.
 - f) Give functions of Magnesium and Zinc.

 2. Short answer question (**any five** out of six) : **(5×5=25)**
 - a) Discuss Diabetes Mellitus and metabolic changes in carbohydrate, protein, lipid in it.
 - b) Give an account of sources, functions, RDA and deficiency manifestations of Vitamin C.
 - c) Discuss Beta-oxidation of fatty acids with its energetics.
 - d) Describe Urea cycle. Discuss its regulation and disorders.
 - e) Define Enzyme Inhibition. Discuss types of inhibition with suitable examples.
 - f) Name the ketone bodies. Discuss the metabolism and significance of ketone bodies.
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 - 7) **Use** a common answerbook for **all** Sections.

1. Short answer question (**any five** out of six) : (5×3=15)
 - a) State the deficiency manifestations of vitamin A.
 - b) What are trace elements ? Give functions of any three.
 - c) Describe different RNAs and their functions.
 - d) Describe digestion and absorption of proteins.
 - e) State biochemical role of vitamin C along with the deficiency disorders.
 - f) State functions of cholesterol and its significance.

 2. Short answer question (**any five** out of six) : (5×5=25)
 - a) What is ketosis? Discuss the causes and illeffects of it.
 - b) Describe competitive inhibition of the enzymes with suitable examples.
 - c) Define hyperglycaemia and glycosuria. State the causes of them.
 - d) Explain Beta oxidation of palmitic acid and its energetics.
 - e) Describe sources, RDA, biochemical role and deficiency manifestations of calcium.
 - f) What are liver function tests? Describe tests of synthetic function-type.
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 - 3) **All questions are compulsory.**
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 - 5) Draw diagrams **wherever** necessary.
 - 6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
 - 7) **Use a common answerbook for all section.**

1. Short answer question (**any five** out of six) : **(5×3=15)**
 - a) How are enzymes classified ? Give suitable examples.
 - b) What are the Recommended Dietary Allowance (RDA), biochemical significance and deficiency disorders for vitamin A ?
 - c) State the role of the second messengers in regulations of hormonal action.
 - d) What are the major distinguishing features between marasmus and kwashiorkor ?
 - e) What are laboratory tests to assess liver function based on synthetic function ?
 - f) What is the biochemical importance of brown adipose tissue ?
 2. Short answer question (**any five** out of six) : **(5×5=25)**
 - a) Discuss various mucopolysaccharides and their roles.
 - b) Describe biochemical mechanism of contraction and relaxation of muscle.
 - c) Give an account of diagnostics and thearapautic use of enzymes.
 - d) Write a short note on detoxification of ammonia in the body.
 - e) Describe deficiency manifestations of Vitamin B1 and Vitamin B6.
 - f) Write functions of phospholipids.
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 - 7) Use a common answer book for **all** Sections.

1. Short answer question (**any five** out of six) :

(5×3=15)

- a) Classify polysaccharides giving suitable examples.
- b) Classify lipoproteins, stating their significance.
- c) Define essential amino acids and state their significance.
- ✓ d) Explain structure of DNA. → *question replaced by following two questions.*
- e) Describe functions, deficiency disorders of iodine.
- f) State the role of isoenzymes in clinical diagnosis.

2. Short answer question (**any five** out of six) :

(5×5=25)

- a) Describe the biochemical functions, RDA, deficiency manifestations of Vitamin A.
- b) Enumerate glycogen storage diseases and their significance.
- c) Write short answer on ketosis, ketogenesis and ketonuria.
- d) Explain competitive inhibition of enzyme with examples.
- e) What are liver function tests ? Explain excretory type of functions.
- f) Explain location, sources of substrates and regulation of Urea cycle.

Q.1 d) Biochemical functions of Calcium.