

TAPAZOS : SUMMER 2015
SUBJECT : PAPER-I – GENERAL BIOCHEMISTRY AND INSTRUMENTATION

Day : Monday
Date : 1/6/2015

Time : 2.00 P.M. TO 5.00 P.M.
Max. Mark : 100.

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Draw net diagrams **WHEREVER** necessary.

Q.1 Describe the structural organization of protein molecule. (25)
Explain the structure- function relationship giving suitable examples.

Q.2 Explain the term “Extra cellular matrix”. Write the chemistry and functions of collagen and proteoglycans. (25)

Q.3 Describe the various mechanisms of regulation of enzyme activity. Add a note on allosteric enzymes. (25)

Q.4 Write notes on any **THREE** of the following: (25)

- a) Oxidative phosphorylation
- b) Autoanalyzers
- c) Abnormal hemoglobins
- d) Functions of cell membrane.

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TAPAZOS : SUMMER 2015
SUBJECT : PAPER-II – METABOLISM AND NUTRITION

Day : Wednesday
Date : 3/6/2015

Time : 2.00 P.M. TO 5.00 P.M
Max. Mark : 100.

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Draw net diagrams **WHEREVER** necessary.

Q.1 Describe the role of vit B complex in intermediary metabolism. (25)

Q.2 Discuss the synthesis and role of biologically important compounds derived from aromatic amino acids. (25)

Q.3 Discuss the various ways of oxidation of fatty acids in details. Calculate the energetic of palmitic acid. (25)

Q.4 Write notes on any **THREE** of the following: (25)

- a) Calcium homeostasis
- b) Zinc and selenium
- c) Purine degradation and salvage pathway
- d) Diet plan for obese diabetic patient.

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TAPAZOS : SUMMER 2015
SUBJECT : PAPER-III – CLINICAL BIOCHEMISTRY

Day : Friday
Date : 5/6/2015

Time : 2.00 P.M. TO 5.00 P.M.
Max. Mark : 100.

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Draw net diagrams **WHEREVER** necessary.

Q.1 Discuss the water and electrolyte balance in the body. (25)

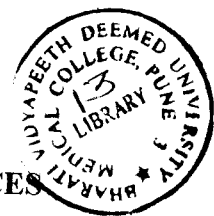
Q.2 Discuss the total quality management in clinical laboratory. (25)

Q.3 What are xenobiotics? Discuss the various mechanisms through which body handles toxic substances. (25)

Q.4 Write notes on any **THREE** of the following: (25)

- a) Metabolic changes in diabetes mellitus.
- b) Role of liver function tests in diagnosing liver disorders.
- c) Blood buffers
- d) Mechanism of action of thyroid hormones.

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TAPAZOS : SUMMER 2015
SUBJECT : PAPER-IV – MOLECULAR BIOLOGY AND RECENT ADVANCES

Day : Monday
Date : 8/6/2015

Time : 2.00 P.M. TO 5.00 P.M.
Max. Mark : 100.

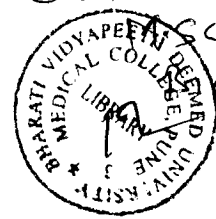
N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Draw net diagrams **WHEREVER** necessary.

- Q.1** Discuss the process of translation in detail. (25)
- Q.2** What are free radicals and reactive oxygen species? Describe the damage produced by them. Add a note on Antioxidants. (25)
- Q.3** Describe the regulation of gene expression in eukaryotes. (25)
- Q.4** Write notes on any **THREE** of the following: (25)
- a) Cell cycle
 - b) Process of recombinant DNA technology
 - c) Mutations
 - d) Tumour markers.

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – I:
(General Biochemistry & Instrumentation)



Day: **Saturday**
Date: **05-10-2013**

Time: **2:00 P.M. TO 5:00 P.M.**
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) All questions carry **EQUAL** marks.
- 3) Draw neat diagrams **WHEREVER** necessary.

Q.1 Describe the components of ETC and theories of ATP synthesis. How is (25)
extramitochondrial NADH oxidized?

Q.2 Describe the composition features and functions of cell membrane. (25)

Q.3 Describe the chemistry, types and functions of nucleic acids. Write a note on (25)
biologically important free nucleotides.

Q.4 Write notes on Any **THREE** of the following: (25)

- a) Hemoglobinopathies
- b) Collagen
- c) Lipoproteins
- d) Enzyme inhibition

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – II:
(Metabolism and Nutrition)

Day: Monday
Date: 07-10-2013

Time: 2:00 P.M. TO 5:00 P.M.
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) All questions carry **EQUAL** marks.
- 3) Draw neat diagrams **WHEREVER** necessary.

Q.1 Describe in detail hemopoietic vitamins. (25)

Q.2 Describe the general reactions of amino acids. How is ammonia produced, transported and detoxified in the body? (25)

Q.3 Justify that citric acid cycle is the final common metabolic pathway for oxidation of food stuffs. (25)

Q.4 Write notes on Any **THREE** of the following: (25)

- a) Trace elements
- b) Metabolic alterations in starvation
- c) Diet management in CHD
- d) Ketogenesis and ketolysis

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – III:
(Clinical Biochemistry)

Day: Wednesday
Date: 09-10-2013

Time: 2:00 P.M. TO 5:00 P.M.
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) All questions carry **EQUAL** marks.
 - 3) Draw neat diagrams **WHEREVER** necessary.
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Q.1 Describe the metabolic changes and chronic complications in Diabetes Mellitus. Write the use of laboratory tests to diagnose and monitor the disease. (25)

Q.2 Describe the mechanism of action of steroid hormone. Write the details of synthesis transport and metabolic functions of thyroid hormones. (25)

Q.3 Describe the regulation of acid base balance and the role of laboratory to evaluate the imbalance. (25)

Q.4 Write notes on Any **THREE** of the following: (25)

- a) Cardiac markers
- b) Xenobiotics and detoxification
- c) Radiosiotopes in medicine
- d) Jaundice

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – IV:
(Molecular Biology and Recent Advances)



Day: Friday
Date: 11-10-2013

Time: 2:00 P.M TO 5:00 P.M.
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) All questions carry **EQUAL** marks.
- 3) Draw neat diagrams **WHEREVER** necessary.

- Q.1 Explain the steps of DNA replication and repair of DNA. (25)
- Q.2 What is PCR? Describe the steps and applications of PCR. (25)
- Q.3 Discuss the process of protein biosynthesis and protein folding. (25)
- Q.4 Write notes on Any **THREE** of the following: (25)
- a) Free radicals and antioxidants
 - b) Tumor Markers
 - c) Nitric oxide- formation and functions
 - d) Mutations

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – I:
(General Biochemistry & Instrumentation)

Day: **Saturday**
Date: **05-10-2013**

Time: **2:00 P.M. TO 5:00 P.M.**
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) All questions carry **EQUAL** marks.
 - 3) Draw neat diagrams **WHEREVER** necessary.
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Q.1 Describe the components of ETC and theories of ATP synthesis. How is (25)
extramitochondrial NADH oxidized?

Q.2 Describe the composition features and functions of cell membrane. (25)

Q.3 Describe the chemistry, types and functions of nucleic acids. Write a note on (25)
biologically important free nucleotides.

Q.4 Write notes on Any **THREE** of the following: (25)

- a) Hemoglobinopathies
- b) Collagen
- c) Lipoproteins
- d) Enzyme inhibition

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – II:
(Metabolism and Nutrition)

Day: Monday
Date: 07-10-2013

Time: 2:00 P.M. TO 5:00 P.M.
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) All questions carry **EQUAL** marks.
- 3) Draw neat diagrams **WHEREVER** necessary.

Q.1 Describe in detail hemopoietic vitamins. (25)

Q.2 Describe the general reactions of amino acids. How is ammonia produced, transported and detoxified in the body? (25)

Q.3 Justify that citric acid cycle is the final common metabolic pathway for oxidation of food stuffs. (25)

Q.4 Write notes on Any **THREE** of the following: (25)

- a) Trace elements
- b) Metabolic alterations in starvation
- c) Diet management in CHD
- d) Ketogenesis and ketolysis

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – III:
(Clinical Biochemistry)

Day: Wednesday
Date: 09-10-2013

Time: 2:00 P.M. TO 5:00 P.M.
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) All questions carry **EQUAL** marks.
- 3) Draw neat diagrams **WHEREVER** necessary.

Q.1 Describe the metabolic changes and chronic complications in Diabetes Mellitus. Write the use of laboratory tests to diagnose and monitor the disease. (25)

Q.2 Describe the mechanism of action of steroid hormone. Write the details of synthesis transport and metabolic functions of thyroid hormones. (25)

Q.3 Describe the regulation of acid base balance and the role of laboratory to evaluate the imbalance. (25)

Q.4 Write notes on Any **THREE** of the following: (25)

- a) Cardiac markers
- b) Xenobiotics and detoxification
- c) Radiosiotopes in medicine
- d) Jaundice

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TAPAZOS: OCT / NOV – 2013
SUBJECT: PAPER – IV:
(Molecular Biology and Recent Advances)



Day: *Friday*
Date: *11-10-2013*

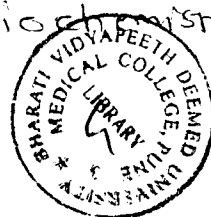
Time: *2:00 P.M TO 5:00 P.M.*
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) All questions carry **EQUAL** marks.
- 3) Draw neat diagrams **WHEREVER** necessary.

- Q.1 Explain the steps of DNA replication and repair of DNA. (25)
- Q.2 What is PCR? Describe the steps and applications of PCR. (25)
- Q.3 Discuss the process of protein biosynthesis and protein folding. (25)
- Q.4 Write notes on Any **THREE** of the following: (25)
- a) Free radicals and antioxidants
 - b) Tumor Markers
 - c) Nitric oxide- formation and functions
 - d) Mutations

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TAPAZOS: OCT/NOV-2012
SUBJECT: PAPER - I
(General biochemistry & Instrumentation)

Day: Saturday
Date: 06-10-2012

Time: 2:00 P.M. To 5:00 P.M
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.

- Q.1** Describe the structural organization of protein molecule. Explain the structure function relationship giving suitable examples. (25)
- Q.2** Describe the components and flow of electrons through respiratory chain. (25)
How is oxidation of extra mitochondrial NADH mediated? Write a note on chemiosmotic hypothesis of oxidative phosphorylation.
- Q.3** Explain the term "Extra cellular matrix". Write the chemistry and functions of collagen and proteoglycans. (25)
- Q.4** Write notes on **ANY THREE** of the following: (25)
- a) Functions of cell membrane
 - b) Competitive inhibition of enzymes
 - c) Nuclear Magnetic Resonance
 - d) Chemiluminescence

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TAPAZOS: OCT/NOV-2012
SUBJECT: PAPER - II
(Metabolism and Nutrition)

Day: **Monday**
Date: **08-10-2012**

Time: **2:00 P.M. To 5:00 P.M.**
Max. Marks: **100**

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.

- Q.1** Discuss the role of vit. Bcomplex in intermediary metabolism. **(25)**
- Q.2** Discuss the synthesis and role of biologically important compounds derived from aromatic amino acids. **(25)**
- Q.3** What are xenobiotics? Discuss the various mechanisms through which body handles toxic substances. **(25)**
- Q.4** Write notes on **ANY THREE** of the following: **(25)**
- a) Calcium homeostasis
 - b) Role of diet in prevention and management of coronary artery diseases
 - c) Trace elements in health and disease
 - d) Formation and role of fructose 2,6 biphosphate

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TAPAZOS: OCT/NOV-2012
SUBJECT: PAPER - III
(Clinical Biochemistry)

Day: Wednesday
Date: 10-10-2012

Time: 2.00 P.M. To 5.00 P.M.
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.

- Q.1** Classify LFTs and describe various tests based on bilirubin metabolism. (25)
- Q.2** Explain the term 'Inborn errors of metabolism' with special reference to amino acid metabolism. (25)
- Q.3** Discuss the role of kidney in 'Homeostasis'. (25)
- Q.4** Write notes on **ANY THREE** of the following: (25)
- a) Immunoglobulins
 - b) Internal quality control
 - c) Nitric oxide
 - d) Automation in clinical laboratory

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TAPAZOS: OCT/NOV-2012
SUBJECT: PAPER - IV
(Molecular Biology and Recent Advances)



Day: Friday
Date: 12-10-2012

Time: 2:00 P.M. To 5:00 P.M.
Max. Marks: 100

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat diagram **WHEREVER** necessary.

- Q.1** Describe the biosynthesis of RNA. (25)
- Q.2** Describe the process of recombinant DNA technology and its applications. (25)
- Q.3** Explain the role of chaperons and other proteins in folding of polypeptide chain. Name the diseases associated with improper protein folding. (25)
- Q.4** Write notes on **ANY THREE** of the following: (25)
- a) Telomerases
 - b) Growth factors
 - c) Human Genome Project
 - d) Mutations

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