

POST GRADUATE EXAMINATION, MAY - 2018

**MD BIOCHEMISTRY
(PAPER ONE)**

GENERAL BIOCHEMISTRY, BIOCHEMICAL TECHNIQUES AND BIostatISTICS

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Describe oxidative phosphorylation in detail. Describe various inhibitors and uncouplers of oxidative phosphorylation with their sites. (20)

Q. 2. What is chromatography? Describe various types of chromatographic techniques with their principles. Write few examples of its application in clinical practice. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Radial immuno-diffusion
- b. Experimental and clinical methods of GIT investigation
- c. Proteoglycans and glycoproteins

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Chi Square Test
- b. SDS-PAGE
- c. Sandwich ELISA
- d. Sensitivity and specificity of a technique
- e. Biologically important nucleotides

X

POST GRADUATE EXAMINATION, MAY - 2018

**MD BIOCHEMISTRY
(PAPER TWO)**

METABOLISM, ENDOCRINOLOGY AND NUTRITION

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Describe the metabolic alterations occurring in starvation. How do hormones help in adaptation during starvation? (20)

Q. 2. Classify lipoproteins. Describe in detail the endogenous pathway of lipoprotein metabolism. Add a note on Fredrickson's classification of dyslipoproteinemias. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Current concepts of iron absorption, causes of iron overload and its diagnosis in the lab.
- b. Hyperhomocysteinemia
- c. Fatty liver and lipotropic factors

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Metabolism of alcohol and its effects on liver function
- b. Panhypopituitarism
- c. Biochemical role of folic acid and folate trap
- d. Hyperuricemias
- e. Hypothalamic neuropeptides and regulation of appetite

X

POST GRADUATE EXAMINATION, MAY - 2018

**MD BIOCHEMISTRY
(PAPER THREE)**

GENETICS, MOLECULAR DIAGNOSTICS, CANCER AND IMMUNOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Discuss the process of translation and post translational modification in eukaryotes Discuss diseases associated with post translational modification in humans. **(20)**

Q. 2. Role of MCH in antigen processing and presentation. Describe molecular basis of graft rejection. **(20)**

Q. 3. Describe briefly: **(3 x 10 = 30)**
a. Role of telomerase in replication and diseases associated with it
b. Molecular basis of metastasis
c. PCR- types and application

Q. 4. Write short notes on: **(5 x 6 = 30)**
a. DNA vaccines
b. Diagnostic and therapeutic role of any 6 radioisotopes
c. Point mutations
d. Gene polymorphism
e. Microarrays

X

POST GRADUATE EXAMINATION, MAY - 2018

MD BIOCHEMISTRY
(PAPER FOUR)

CLINICAL & SYSTEMIC BIOCHEMISTRY & RECENT ADVANCES IN BIOCHEMISTRY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

- Q. 1. Define isoenzymes. What is the relevance of enzymes and isoenzymes in clinical diagnosis of (a) cardiac, (b) hepatic and (c) prostate disorders? (20)
- Q. 2. Discuss composition of cerebrospinal fluid and its relevance in CNS disorders. Discuss the role of gamma-secretase in pathogenesis of Alzheimer's disease. (20)
- Q. 3. Describe briefly : (3 x 10 = 30)
- Standard Operating Procedures (SOP) in good laboratory practice
 - Nanotechnology application with reference to genomics and enzymology
 - Laboratory accreditation and quality control
- Q. 4. Write short notes on: (5 x 6 = 30)
- Hemoglobinopathies
 - Dexamethasone suppression test
 - Biosensors
 - Role of cytochrome p450 in xenobiotics
 - Point-of-care testing

X
