

MANIPAL UNIVERSITY
SECOND YEAR M.Sc. M.L.T. DEGREE EXAMINATION – JUNE 2017
SUBJECT: CLINICAL BIOCHEMISTRY
(BIOCHEMISTRY SPECIALIZATION)

Thursday, June 01, 2017

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

- ✍ **Answer ALL questions.**
- ✍ **Draw diagrams wherever necessary.**

1. Enumerate the biochemical tests done in urine. Discuss the analysis of urine for abnormal chemicals.

(15 marks)

2. What are the various types of automated analyzers? Add a note on point of care testing.

(15 marks)

3. **Write detailed notes on:**

- 3A. Complications of diabetes mellitus
- 3B. Control charts for analytical methods
- 3C. Routine diagnostic tests for renal function
- 3D. Safety measures for the chemical hazards
- 3E. Tests for role of liver in bilirubin metabolism

(5 marks × 5 = 25 marks)

4. **Write brief notes on:**

- 4A. Arterial Blood gases
- 4B. Inhibitors of oxidative phosphorylation
- 4C. NBT-PABA test of pancreatic function
- 4D. Determination of free HCl in gastric juice
- 4E. Blood pH regulation by phosphate buffer

(3 marks × 5 = 15 marks)



MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.L.T. DEGREE EXAMINATION – JUNE 2017

SUBJECT: METABOLIC REGULATIONS AND INBORN ERRORS OF METABOLISM
(BIOCHEMISTRY SPECIALIZATION)

Saturday, June 03, 2017

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

✍ Answer ALL questions.

✍ Draw diagrams wherever necessary.

1. Discuss disorders of purine metabolism. Add a note on salvage pathway.
2. Discuss theories to explain mechanism of action of enzyme. Add a note on allosteric regulation of enzyme.

(15 marks × 2 = 30 marks)

3. Write detailed notes on:

- 3A. Enzymes in Liver disease with its clinical significance
- 3B. Citric acid cycle
- 3C. Synthesis of bile acids from cholesterol
- 3D. Regulation and energetics of glycolysis
- 3E. Disorders of plasma lipoproteins

(5 marks × 5 = 25 marks)

4. Write short notes on:

- 4A. Rapaport - Leubering cycle
- 4B. Hyperthyroidism
- 4C. Acromegaly and gigantism
- 4D. Phenylketonuria
- 4E. Albinism

(3 marks × 5 = 15 marks)



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MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.L.T. DEGREE EXAMINATION – JUNE 2017

SUBJECT: APPLIED BIOCHEMISTRY
(BIOCHEMISTRY SPECIALIZATION)

Tuesday, June 06, 2017

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

- ✍ Answer ALL questions.
- ✍ Draw diagrams wherever necessary.

1. What are acute phase proteins? Discuss the estimation, interpretation and clinical significance of C-reactive protein. Add a note on myocardial Infarction.

(15 marks)

2. Discuss the acid base imbalance and the diagnosis of associated disorders.

(15 marks)

3. Write detailed notes on:

3A. HIV genes

3B. Prions

3C. Lead poisoning

3D. Potassium imbalance

3E. Antidotes

(5 marks × 5 = 25 marks)

4. Write short notes on:

4A. Ceruloplasmin

4B. Beta amyloid

4C. Nicotine

4D. Alzheimer's disease

4E. Cocaine

(3 marks × 5 = 15 marks)

