



MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER BPT / B.Sc. C.V.T./ B.Sc. R.T./ B.Sc. M.I.T./ B.Sc. RRT&DT / BOPT / B.O.T./ B.Sc. N.M.T./B.Sc. M.L.T./ B.Sc. P.F.T.
DEGREE EXAMINATION - MAY/JUNE 2018

SUBJECT : BIOCHEMISTRY / GENERAL BIOCHEMISTRYII
(BIOC 102/BPT 106; BIOC 102; BIOC 102/BRES 108; BIOC 102/BMIT 106; BIOC 102/BDT 106; BIOC 102/ BOPT 104; BIOC 102/BOT 106;
BIOC 102; BIOC 102/BMLT 104; BIOC 102)
(2016 RV & 2016 SCHEME)
Friday, June 01, 2018 (14.00 - 16.00)

Answer ALL questions.

Marks: 50

Duration: 120 mins.

- 1) Describe in detail the steps of gluconeogenesis from lactate. Mention the significance of this process. (10)
2A) Classify enzymes and name one enzyme in each class. (6)
2B) Name four diagnostic enzymes and mention their clinical importance. (4)

3) Answer the following questions:

- 3A) Define electron transport chain. Give a diagrammatic representation of its complexes with their components in their order of arrangement. (5)
3B) Write the site, subcellular site and reactions of β -oxidation of fatty acyl CoA. (5)
3C) Describe the structure of DNA with a suitable diagram. (5)
3D) Write the reactions of urea cycle. (5)

4) Answer the following:

- 4A) Name two glycogen storage disorders and mention the defective enzymes. (2)
4B) Mention one example and one function each for a homopolysaccharide and a heteropolysaccharide. (2)
4C) Define the terms replication and translation. (2)
4D) List four factors affecting basal metabolic rate (BMR). (2)
4E) Name two water soluble vitamins and mention one function for each. (2)

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SECOND SEMESTER B.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - MAY/JUNE 2018
SUBJECT: BMIT 110 - BASIC PHYSICS IN COMPUTED TOMOGRAPHY & ULTRASONOGRAPHY
(2016 SCHEME)

Monday, June 04, 2018 (14.00 - 17.00)

Answer all the questions.

Draw diagrams wherever required.

Marks: 100

Duration: 180 mins.

- 1A) Explain in detail Computed Tomography instrumentation. Mention merits and demerits of CT in comparison of other modalities. (20)
- 1B) Write a note on biological effects of ultrasound and safety measures. (20)
- 2A) Draw a diagram of electron beam Computed Tomography and describe its construction and working. (10)
- 2B) Discuss in detail display modes of ultrasound with their clinical applications. (10)

3) Write short notes on:

- 3A) USG contrast agents (5)
- 3B) Characteristics of piezoelectric crystals (5)
- 3C) CT reconstruction algorithms (5)
- 3D) Mirror artefact with cause and remedies (5)
- 3E) Pulse wave Doppler (5)
- 3F) Partial volume artefact with and remedies (5)
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- 4A) Doppler effect (2)
- 4B) Acoustic impedance (2)
- 4C) Scintillation detector (2)
- 4D) Application of linear transducer (2)
- 4E) CT principle (2)

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SECOND SEMESTER B.Sc. MEDICAL IMAGING TECHNOLOGY DEGREE EXAMINATION - MAY/JUNE 2018
SUBJECT: BMIT 102 - RADIOGRAPHIC POSITIONING & TECHNIQUES - PART II
(2016 RV SCHEME)

Monday, June 04, 2018 (14.00 - 16.00)

Answer all the questions.

Marks: 50

Duration: 120 mins.

- 1) Discuss in detail about Paediatric Radiography. (10)
- 2) Explain briefly the anatomical Landmarks and Lines of Skull. Explain Caldwell Method. (10)

- 3) **Discuss the following:**
 - 3A) Swimmers View (5)
 - 3B) Stenver's view (5)
 - 3C) Apicogram (5)

- 4) **Write short notes on:**
 - 4A) List the names of cranial and facial bones. (3)
 - 4B) Difference between KUB and Abdomen (3)
 - 4C) Thoracic Spine AP Projection (3)
 - 4D) Axio-lateral oblique projection for mandible (3)
 - 4E) Tangential Projection for nasal bones (3)

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