

# Question Paper

Exam Date & Time: 24-May-2024 (10:00 AM - 12:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER B.Sc. (NMT/RT/ MIT/EMT/BPT/BOPT/CVT/CND/RRT & DT/BOT/AOTT/ PHYSICIAN  
ASSISTANT/PFT/MLT) DEGREE EXAMINATION - MAY/JUNE 2024  
SUBJECT: BIC1201 - BIOCHEMISTRY  
(2020/2022 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Define gluconeogenesis and write the reactions of gluconeogenesis from pyruvate (10)
- 2) Explain with illustrations the biosynthesis of mature collagen, emphasizing the reactions catalyzed by prolyl hydroxylase, lysyl hydroxylase, and lysyl oxidase. (10)
- 3A) Illustrate the classification of lipoproteins based on their ultracentrifugation properties. Mention the site of synthesis and function for any THREE lipoproteins. (5)
- 3B) Describe in detail the activation of fatty acid and the steps of beta oxidation in mitochondria. (5)
- 3C) Mention the RDA for dietary fibres. Explain FOUR benefits of consuming dietary fibres (5)
- 3D) Mention the RDA, sources and chemical forms of vitamin A. List FOUR features of vitamin A deficiency (5)
- 4A) Mention the normal blood levels of fasting glucose, urea, cholesterol and total bilirubin. (2)
- 4B) Write the normal level of albumin in serum and mention any TWO conditions in which its levels are altered. (2)
- 4C) List FOUR differences between DNA and RNA (2)
- 4D) Write the reaction catalysed by pyruvate dehydrogenase complex indicating the coenzymes required. (2)
- 4E) Define metabolic alkalosis. Mention TWO causes for it. (2)

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# Question Paper

Exam Date & Time: 22-May-2024 (10:00 AM - 12:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

**SECOND SEMESTER B.Sc. (NMT/RTT MIT/EMT/BPT/BOPT/CVT/RRT & DT/BOT/AOTT/ PHYSICIAN  
ASSISTANT/BPO/PFT/MLT/RESPIRATORY THERAPY) DEGREE EXAMINATION - MAY/JUNE 2024  
SUBJECT: PHY1201 - PHYSIOLOGY - II  
(2020/2022 SCHEME)**

**Marks: 50**

**Duration: 120 mins.**

**Answer all the questions.**

**Write brief, clear and legible answers.**

**Illustrate your answers with diagrams and flow charts wherever appropriate.**

- 1) Name the functional divisions of cerebellum. Enumerate the functions of each lobe of cerebellum. (10)  
Add a note on clinical features of cerebellar lesion.  
(2+5+3 = 10 marks)
- 2) Describe the actions of growth hormone. Explain the regulation of secretion of growth hormone. Add (10)  
a note on the cause and clinical features of gigantism  
(4+3+3 = 10 marks)
- 3A) Enumerate any FOUR functions of saliva. Add a note on Xerostomia (5)  
(4+1 = 5 marks)
- 3B) Describe the renal tubular reabsorption of glucose. (5)
- 3C) Draw a labeled diagram of the lateral spinothalamic pathway and mention any two sensations (5)  
carried by the same.
- 3D) Describe the uterine endometrial changes during menstrual cycle (5)
- 4A) List any TWO clinical features of Parkinson's disease (2)
- 4B) List any TWO properties of receptors (2)
- 4C) Enumerate any TWO functions of gall bladder (2)
- 4D) Define Renal clearance. Mention the substance used for the estimation of GFR (2)
- 4E) List the indicators of ovulation (2)

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# Question Paper

Exam Date & Time: 20-May-2024 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER B.Sc. MLT DEGREE EXAMINATION - MAY/JUNE 2024  
SUBJECT: MLT1201 - CLINICAL LABORATORY MANAGEMENT AND AUTOMATION  
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

Draw diagrams wherever necessary.

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|-----|---|------|
| 1)  | Explain the preparation and method of using LJ chart in internal quality control<br>(10+10 = 20 marks)  | (20) |
| 2)  | List the auto analysers based on immunoassay technique. What are the basic steps involved in auto analysers based on immunoassay technique? Explain the immulite system.<br>(3+7+10 = 20 marks) | (20) |
| 3)  | Define Organization. Explain about different types of Organization with its pros and cons.  | (10) |
| 4)  | Explain about steps involved in choosing LIS for a clinical laboratory.   | (10) |
|     |   |      |
| 5A) | Define and explain Laboratory error. Classify laboratory errors<br>(1+2+2 = 5 marks)  | (5)  |
| 5B) | List the components of Internal quality control and list the requirements to maintain the internal quality control<br>(2+3 = 5 marks)   | (5)  |
| 5C) | List the importance of laboratory audit and explain Internal audit<br>(2+3 = 5 marks)   | (5)  |
| 5D) | List the different parts of continuous flow analysers and explain their functions<br>(2+3 = 5 marks).   | (5)  |
| 5E) | What are the advantages of automation?  | (5)  |
| 5F) | Explain the factors effecting POCT instruments  | (5)  |
|     |   |      |
| 6A) | List the structural elements of an organization   | (2)  |
| 6B) | Define corrective action and preventive action in laboratory  | (2)  |
| 6C) | What are the advantage and disadvantages of Continuous flow analysers?  | (2)  |
| 6D) | What is random access analyser  | (2)  |
| 6E) | List basic rules of work scheduling   | (2)  |

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