

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.(NUCLEAR MEDICINE TECHNOLOGY) DEGREE EXAMINATION - MAY 2024
SUBJECT: NMT1201- CELL AND MOLECULAR BIOLOGY
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Discuss in detail quality control in endoplasmic reticulum | (20) |
| 2) | Write in detail on structure of DNA | (20) |
| 3) | Discuss in detail export of molecules through nuclear pore complex | (10) |
| 4) | Discuss in detail why DNA replication is semiconservative in nature | (10) |
| 5A) | Write a short note on RNA processing and editing | (5) |
| 5B) | Discuss the importance t-RNA, stop and start codons | (5) |
| 5C) | Write a short note on photorespiration | (5) |
| 5D) | Write a short note on Kreb's cycle | (5) |
| 5E) | Mention the functions of plasma membrane | (5) |
| 5F) | Write a short note on voltage-gated channels | (5) |
| 6A) | What is the function of ATP in a cell? | (2) |
| 6B) | Mention role of lysosomes | (2) |
| 6C) | What are rRNA? | (2) |
| 6D) | Mention the importance of F_0 - F_1 particles | (2) |
| 6E) | List two important functions of golgi apparatus | (2) |

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Question Paper

Exam Date & Time: 27-May-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER B.Sc. NMT DEGREE EXAMINATION - MAY/JUNE 2024

SUBJECT: NMT1202 - BIOETHICS AND PATIENT CARE

(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Which cases are medico-legal? Mention good practises for maintaining the confidentiality of MLC Records? How should the medico-legal case be reported?
(10+7+3 = 20 marks) | (20) |
| 2) | Discuss professional indemnity Insurance. | (20) |
| 3) | Explain importance of animals in research and 3 R's. | (10) |
| 4) | Discuss functions and classification of hospitals. | (10) |
| 5A) | Explain the maintenance of medical records. | (5) |
| 5B) | List the non -imaging and imaging equipment in nuclear medicine. | (5) |
| 5C) | Explain various precautions to be taken during dispensing of radioactive dose and administering to the patients. | (5) |
| 5D) | Explain golden rules of first aid. | (5) |
| 5E) | Explain the methods of sterilization. | (5) |
| 5F) | Explain the SOPs of decontamination. | (5) |
| 6A) | Define external radioactive contamination. | (2) |
| 6B) | Mention two radionuclides used in diagnostic nuclear medicine. | (2) |
| 6C) | Mention the 3 radiation safety rules in nuclear medicine. | (2) |
| 6D) | Give 2 examples for radiation emergency in nuclear medicine. | (2) |
| 6E) | What are the 3 major sections of nuclear medicine department? | (2) |

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