

Question Paper

Exam Date & Time: 20-May-2024 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER B.Sc. (RT/ MIT/EMT/BPT/CVT/RRT & DT/BOT/AOTT/ PHYSICIAN ASSISTANT/BPO) DEGREE

EXAMINATION - MAY/JUNE 2024

SUBJECT: ANA1201/ ANA1205 - ANATOMY - II

(2020/2022 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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| 1) | Describe the arches of foot and mention their applied anatomy
(8+2 = 10 marks) | (10) |
| 2) | Describe the median nerve under following headings
A) Origin
B) Root value
C) Course
D) Distribution
E) Applied anatomy
(1+1+2+5+1 = 10 marks) | (10) |
| 3A) | Popliteal fossa | (5) |
| 3B) | Deltoid muscle | (5) |
| 3C) | Sciatic nerve | (5) |
| 3D) | Elbow joint | (5) |
| 4A) | Brachial artery | (2) |
| 4B) | Femur | (2) |
| 4C) | Buccinator muscle | (2) |
| 4D) | Median cubital vein | (2) |
| 4E) | Femoral sheath | (2) |

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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: 27-May-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER B. Sc. RT/ANAESTHESIA TECHNOLOGY DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: RES1201 - CLINICAL EXAMINATION IN RESPIRATORY CARE
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the techniques for structuring a patient interview. Add a note on types of questions and statements used to facilitate conversational interviewing and how to obtain alternative source of patient history (20)
(10+5+5 = 20 marks)
- 2) What are the THREE zones of space commonly associated with the bedside patient encounter. List any FIVE major factors affecting communication between the patient and clinician (20)
(15+5 = 20 marks)
- 3) List any SIX Cardiopulmonary symptoms. Add a note on Cough (10)
(6+4 = 10 marks)
- 4) Explain in brief about the procedure for obtaining an arterial blood sampling (10)
- 5A) Define any FIVE lung volumes and capacities (5)
- 5B) Explain APGAR score. (5)
- 5C) List any FIVE abnormal Breathing pattern (5)
- 5D) Write a note on Henderson-Hasselbach equation. (5)
- 5E) List any FIVE respiratory equipment commonly used to assess and treat patients at home (5)
- 5F) List the general reasons why documentation is important (5)
- 6A) Define Cardiac Output and Ejection fraction (2)
- 6B) Define Leucocytosis and Neutropenia (2)
- 6C) Define Pulsus paradoxus and Pulsus alternans (2)
- 6D) Mention four components of physical examination (2)
- 6E) List the chest x ray features of COPD (2)

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Question Paper

Exam Date & Time: 29-May-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

**SECOND SEMESTER B.Sc. RT/ANAESTHESIA AND OPERATION THEATRE TECHNOLOGY DEGREE EXAMINATION -
MAY/JUNE 2024
SUBJECT: RES1202 - RESPIRATORY CARE EQUIPMENT
(2020 SCHEME)**

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Define aerosol. Explain the physical characteristic of an aerosol. List the indications of aerosol therapy. With a neat, labelled diagram, explain small volume nebulizer and add a note of the optimum technique for administering aerosol through the same. (20)
(1+4+2+5+8 = 20 marks)
- 2) Explain normal ECG with a labelled diagram. Explain the correct placement of electrodes for 12 limb lead ECG. Explain the principles of operations of one invasive and one non-invasive devices used to record the blood pressure. (20)
(6+4+5+5 = 20 marks)
- 3) List the various artificial airway devices used in respiratory care. With the help of a neat, labelled diagram explain any one blind insertion airway device. (10)
(3+7 = 10 marks)
- 4) Explain the mechanical insufflations and exsufflation devices which enhance airway secretions with respiratory muscle weakness or paralysis. (10)
- 5A) List the indications, contraindications and hazards associated with humidity therapy. (5)
(2+2+1 = 5 marks)
- 5B) Explain the physiological effects of sleep on cardiopulmonary function. (5)
- 5C) Explain the precautions to be taken and troubleshooting for the CPAP devices. (5)
- 5D) Explain the process of pasteurization and its application in disinfection of respiratory care equipment. (5)
- 5E) Explain the components of High Flow nasal cannula systems in the treatment of hypoxemia. (5)
- 5F) Explain the modified Allen's Test. (5)
- 6A) List the Indications for the use of non-invasive ventilators. (2)
- 6B) List the complications during the transport of a critically ill patient. (2)
- 6C) List the colour codes used to identify medical gas cylinders. (2)
- 6D) Define pressure control and volume control ventilation. (2)
- 6E) Define the term High level disinfection. (2)

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