

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.

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|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 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. MIT DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: MIT1201 - RADIOGRAPHIC POSITIONING AND TECHNIQUES - II
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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|-----|----------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1) | Explain the projections taken to visualize maxillary sinus. | (20) |
| 2) | Explain in detail the anatomy of cervical spine with a labelled diagram. Explain the views taken for visualising C1 and C2 vertebrae. | (20) |
| 3) | Explain in detail about Pediatric radiography. | (10) |
| 4) | Explain the indications, positioning, centring, technical factors, structures seen and evaluation criteria for Frogs lateral view of pelvis. | (10) |
| 5A) | Describe the projection taken to visualise optic foramina. | (5) |
| 5B) | Illustrate the anatomy pelvis with a labelled diagram. | (5) |
| 5C) | Explain the positioning for pelvic outlet view. | (5) |
| 5D) | Explain the positioning, centring and evaluation criteria for Lumbar Spine lateral view. | (5) |
| 5E) | Explain the structures seen and evaluation criteria for submento vertical view. | (5) |
| 5F) | Compare the structures seen and evaluation criteria of Abdomen AP and KUB x-ray. | (5) |
| 6A) | State the technical factors for thoracic spine lateral view. | (2) |
| 6B) | Outline the anatomy of a typical cervical vertebra. | (2) |
| 6C) | Outline the indications and contraindications for sacroiliac joint AP projection. | (2) |
| 6D) | Recall the regions and quadrants of abdomen. | (2) |
| 6E) | List the patient preparation and radiation protection measures taken while performing radiographic examinations for a female patient. | (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. MIT DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: MIT1202 - DIGITAL IMAGING AND IMAGE PROCESSING METHODS IN RADIOGRAPHY
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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|-----|----------------------------------------------------------------------------------------------------------------------------------------|------|
| 1) | Explain in detail about the construction of the Intensifying Screen. Add note on types of screens and care of the intensifying screen. | (20) |
| 2) | Illustrate the components, workflow and image formation of DR. | (20) |
| 3) | Explain in detail about the Cassettes construction. | (10) |
| 4) | Summarize the workflow of the PACS. | (10) |
| 5A) | Explain the steps involved in manual processing. | (5) |
| 5B) | Illustrate the construction of the film. | (5) |
| 5C) | Explain the types of Darkroom entrances. | (5) |
| 5D) | Explain steps involved in images formation in CR. | (5) |
| 5E) | Explain the characteristics of Latent Images. | (5) |
| 5F) | Explain the principle of Macroradiography. | (5) |
| 6A) | List the various artefacts seen in CR. | (2) |
| 6B) | Define crossover effect. | (2) |
| 6C) | Define Image contrast. | (2) |
| 6D) | List the constituents of the developer solution. | (2) |
| 6E) | Define sensitometry. | (2) |

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