

# Question Paper

Exam Date & Time: 27-Jun-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MPT (CARDIOPULMONARY SCIENCES) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PTH5102 - FOUNDATIONS OF PHYSIOTHERAPY IN CARDIOPULMONARY SCIENCES  
(COMMON FOR CARDIOPULMONARY REHABILITATION/CRITICAL CARE PHYSIOTHERAPY/HEALTH PROMOTION  
AND FITNESS)  
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the methods to evaluate cardiorespiratory endurance. Describe cardiopulmonary exercise testing and the relevance of the variables obtained from it. (20)  
(5+15 = 20 marks)
- 2) Describe the anatomy of the thorax and its mechanics. Analyse the impact of respiratory disease on mechanics of the thorax. (20)  
(10+10 = 20 marks)
- 3A) Explain lung expansion therapy. (10)
- 3B) Illustrate the normal electrocardiogram, describe the physiological basis for an electrocardiogram and mention the changes seen in coronary artery disease. (10)  
(2+4+4 = 10 marks)
- 3C) Explain the development of the heart. (10)
- 3D) Describe the pathophysiology of chronic obstructive pulmonary disease. (10)
- 4A) Explain bronchodilators and its role in physiotherapy. (5)
- 4B) Mention the delivery systems and prescription of oxygen therapy. (5)
- 4C) Illustrate the tracheobronchial tree. (5)
- 4D) Mention the methods for assessment of peripheral muscle strength. (5)

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## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MPT (COMMUNITY PHYSIOTHERAPY) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PTH5202 - FOUNDATIONS OF PHYSIOTHERAPY IN COMMUNITY  
(SPECIALIZATION: OCCUPATIONAL HEALTH AND ERGONOMICS)  
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Describe the CBR matrix proposed by WHO. Utilize the matrix to plan the role of Physiotherapy in community integration and rehabilitation of persons with disabilities. (20)  
(10+10 = 20 marks)
- 2) Explain the various health care delivery models. Compare and contrast the various approaches in rehabilitation. (20)  
(10+10 = 20 marks)
- 3A) Elaborate the domains of ICF and enumerate the uses of ICF core sets. (10)  
(7+3 = 10 marks)
- 3B) Explain the Hypothesis oriented algorithm in Disability assessment. (10)
- 3C) What is caregiver burden? Mention strategies to minimize caregiver burden. (10)  
(5+5 = 10 marks)
- 3D) Elaborate the role of Physiotherapy in school health programs. (10)
- 4A) Enumerate the Principles of Community Based Rehabilitation. (5)
- 4B) Apply the recommendations of accessibility, to make public restrooms accessible to users of wheelchair. (5)
- 4C) Give an overview of the role of social worker in community rehabilitation. (5)
- 4D) Enumerate the principles of work delegation among inter-professional team members. (5)

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## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MPT (GERIATRICS - AGING & DISEASE) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PTH5302 - FOUNDATIONS OF PHYSIOTHERAPY IN GERIATRICS  
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the physiological changes associated with aging in the musculoskeletal system. Appraise the role of a physiotherapist in the assessment and management of sarcopenia. (20)  
(10+10 = 20 marks)
- 2) Explain frailty with its causes and risk factors. Also describe the frailty assessment and frailty modulation methods. (20)  
(10+10 = 20 marks)
- 3A) Explain the models and predictors of successful aging. (10)
- 3B) Describe various exercise testing protocols for older adults. (10)
- 3C) Explain the role of interprofessional team in care of older adults. (10)
- 3D) Explain the care of elderly in long term care settings. (10)
- 4A) What are the nutritional challenges faced by elderly? (5)
- 4B) Outline hypothesis oriented algorithm in geriatric rehabilitation. (5)
- 4C) Identify common ethical dilemmas in geriatrics. (5)
- 4D) Appraise gerotechnology in the care of older adults. (5)

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## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MPT (MUSCULOSKELETAL SCIENCES) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PTH5402 - FOUNDATIONS OF PHYSIOTHERAPY IN MUSCULOSKELETAL SCIENCES  
(SPECIALIZATION: HAND REHABILITATION/MANUAL THERAPY/SPORTS PHYSIOTHERAPY)  
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss in detail kinetics and kinematics of knee joint. Discuss the function of meniscus and its application during knee movement. (20)  
(10+10 = 20 marks)
- 2) Discuss normal gait cycle, what are the stance phase abnormalities you might see in a patient with advanced osteoarthritis of hip? Give biomechanical rationale. (20)  
(10+5+5 = 20 marks)
- 3A) Discuss stages of bone healing and its implications in rehabilitation. (10)
- 3B) Discuss physiology of nociceptive pathway. (10)
- 3C) Discuss models of pain. (10)
- 3D) Discuss the patho-mechanics for various deformities in rheumatic hand. (10)
- 4A) Explain slump test with emphasis on technique and clinical implications. (5)
- 4B) Explain in brief aspects of confidentiality in medico legal cases. (5)
- 4C) Discuss techniques in oedema management. (5)
- 4D) Discuss physiological response to exercise in musculoskeletal system. (5)

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## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MPT (NEUROSCIENCES) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PTH5502 - FOUNDATIONS OF PHYSIOTHERAPY IN NEUROSCIENCES  
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the role of sensory and special sensory systems in the control of normal postural control. (20)
- 2) Define neuroplasticity. Discuss the types of brain plasticity. Explain the experience dependent plasticity and its clinical significance. (20)  
(2+10+8 = 20 marks)
- 3A) Applied anatomy of Brachial plexuses. (10)
- 3B) Compare and contrast the tonal dysfunctions in Spasticity and Rigidity. (10)
- 3C) Cerebrospinal Fluid- production, circulation, and absorption. (10)
- 3D) Primitive reflexes and their impact on milestones development. (10)
- 4A) Compartments of cerebellum. (5)
- 4B) Facial nerve - course anatomy. (5)
- 4C) Illustrate the cross section anatomy of cervical and lower thoracic segments of spinal cord. (5)
- 4D) Compare and contrast the differences in Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) scans for haemorrhagic and ischemic strokes. (5)

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## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MPT (OBG) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PTH5602 - FOUNDATIONS OF PHYSIOTHERAPY IN OBSTETRICS AND GYNECOLOGY  
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the anatomical and physiological changes in musculoskeletal and cardiovascular systems during pregnancy. (20)  
(10+10 = 20 marks)
- 2) A 29-year-old female on day 2 for post-normal delivery complains of pain in the coccyx region after delivery. Pain increase in all the activity only get relieved while sitting in the western toilet. Past History has a fall on buttocks. Plan out the detailed physiotherapy assessment for the given case. (20)
- 3A) Explain the Physiology of integumentary system. (10)
- 3B) Explain the biomechanics of thorax during pregnancy. (10)
- 3C) Explain the physiology and development of the female breast. (10)  
(5+5 = 10 marks)
- 3D) Explain the anatomy of gastrointestinal and colorectal system. (10)  
(5+5 = 10 marks)
- 4A) Classify the types of the pelvis and its specific features. (5)
- 4B) Explain the anatomy of the Diastasis rectus abdominus. (5)
- 4C) Explain the Functional anatomy of the pelvic floor to maintain urinary continence. (5)
- 4D) Explain stages of Puberty. (5)

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## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER MPT (PEDIATRICS) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PTH5702 - FOUNDATIONS OF PHYSIOTHERAPY IN PAEDIATRICS  
(SPECIALIZATION: NEONATAL AND PAEDIATRIC RESPIRATORY CARE/PAEDIATRIC NEUROLOGY)  
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the typical development based on the anthropometric domain of development. Add a note on oromotor development. (20)  
(15+5 = 20 marks)
- 2) Explain in detail theories of motor control. (20)
- 3A) Explain in detail intrauterine development of nervous system. (10)
- 3B) Describe the implications of delay in the normal development of growth characteristics. (10)
- 3C) Explain in detail any five common antenatal investigations. (10)
- 3D) Explain the concepts of consent and assent. Add note on guidelines for conducting research in children. (10)
- 4A) Describe importance of parental education in the context of rehabilitation. (5)
- 4B) Outline the basic principles of genetics. (5)
- 4C) Describe the Tonic labyrinthine reflex. (5)
- 4D) Pharmacological management of hypertonic muscle. (5)

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