

Question Paper

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



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (CARDIOPULMONARY SCIENCES) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.1.1 - CARDIOPULMONARY SCIENCES WITH ELECTIVE AS CRITICAL CARE PHYSIOTHERAPY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss assessment and management of a 35 years old patient with organophosphorus poisoning admitted to ICU intubated and presently on mechanical ventilator with SIMV mode. (20)
- 2) What are different modes of mechanical ventilation? Explain rationale for ventilatory strategies in ARDS and describe the weaning criteria. (20)
(10+5+5 = 20 marks)
- 3A) Explain different types of humidifiers. (10)
- 3B) Discuss different oxygen delivery systems and prescription of oxygen therapy in chronic respiratory disease. (10)
- 3C) Explain physiotherapy management for right side pneumnectomy. (10)
- 3D) Explain rationale and safety criteria for early mobilization in critically ill patients. (10)
- 4A) What are the ECG changes in acute coronary syndrome? (5)
- 4B) Explain any two physical performance outcomes used in ICU. (5)
- 4C) What are the steps of infection control prior to endotracheal suction? (5)
- 4D) Explain the role of positioning for a patient with Covid infection. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (CARDIOPULMONARY SCIENCES) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.1.2 - CARDIOPULMONARY SCIENCES WITH ELECTIVE AS CARDIOPULMONARY
REHABILITATION
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Define cardiac rehabilitation. Explain the treatment of a patient Post-CABG referred to you for Phase I and Phase II Cardiac rehabilitation. (20)
(2+18 = 20 marks)
- 2) Define Pulmonary rehabilitation and its components. Describe the rationale and exercise prescription for pulmonary rehabilitation in COPD. (20)
(2+2+6+10 = 20 marks)
- 3A) Explain the home based rehabilitation for a patient with heart failure. (10)
- 3B) Explain pulmonary rehabilitation for a bronchiectasis patient admitted with acute exacerbation. (10)
- 3C) Explain exercise training and precautions for interstitial lung disease patient. (10)
- 3D) Discuss the role of exercise in promoting cardiopulmonary health. (10)
- 4A) What are special considerations should be taken for exercise testing in hypertension? (5)
- 4B) What precautions to be taken for a patient with pacemaker? (5)
- 4C) What are the chronic effects of exercise on cardio vascular system? (5)
- 4D) Describe the procedure for performing 6 minute walk test. (5)

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FOURTH SEMESTER MPT (CARDIOPULMONARY SCIENCES) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.1.3 - CARDIOPULMONARY SCIENCES WITH ELECTIVE AS HEALTH PROMOTION AND FITNESS
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss the health related fitness assessment and prescription for a 25 year old female with metabolic syndrome. (20)
- 2) List the Behavioural theories for health promotion and discuss the applications of these theories to promote physical activity. (20)
- 3A) Write in detail the exercise prescription for a patient with heart failure. (10)
- 3B) Discuss the advantages of worksite health promotion. (10)
- 3C) Discuss the role of mHealth to promote Physical Activity. (10)
- 3D) Write about the fitness assessment for elderly population. (10)
- 4A) Discuss the role of genetics in Cardiac Respiratory fitness. (5)
- 4B) Discuss any two tests for agility and balance in children. (5)
- 4C) List down the Relative and Absolute contraindication for exercise testing. (5)
- 4D) Enumerate the scales to assess for fatigue in cancer. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (NEUROSCIENCES) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.2.1 - NEUROSCIENCES WITH ELECTIVE AS NEUROLOGICAL PHYSIOTHERAPY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss the assessment measures for gait in stroke. Add a note on recent advances in gait training of people with stroke. (20)
- 2) Explain in detail about evaluation and management of a patient with degenerative cerebellar disorder. (20)
- 3A) Postural control strategies in Parkinson's disease. (10)
- 3B) Upper limb training for a patient with quadriparesis following transverse myelitis. (10)
- 3C) Classification of Brachial Plexus injury. (10)
- 3D) Management of autonomic dysfunction in Guillain Barre Syndrome. (10)
- 4A) Facial Neuromuscular Re-education. (5)
- 4B) Bilateral Vestibular disorders. (5)
- 4C) Energy conservation techniques. (5)
- 4D) Cognitive rehabilitation strategies. (5)

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FOURTH SEMESTER MPT (NEUROSCIENCES) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.2.2 - NEUROSCIENCES WITH ELECTIVE AS NEUROSURGICAL PHYSIOTHERAPY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the criteria and methods for Early mobilization following traumatic brain injury. (20)
- 2) Explain the in-hospital physiotherapy management of a C5 complete spinal cord injury patient who underwent a decompression and stabilization procedure. (20)
- 3A) Describe the post-surgical physiotherapy management of vestibular Schwannoma. (10)
- 3B) Common upper limb complications after stroke and its physiotherapy management. (10)
- 3C) Physiotherapy management of a patient with cervicogenic vertigo. (10)
- 3D) Management of child following ventricular peritoneal (VP) shunt for hydrocephalus. (10)
- 4A) Rhizotomy procedures. (5)
- 4B) Intramedullary spinal cord compressions. (5)
- 4C) Precautions to be taken while mobilizing patients with cranial flap placed in peritoneal cavity. (5)
- 4D) Ulnar nerve injury. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (MUSCULOSKELETAL SCIENCES) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.3.2 - MUSCULOSKELETAL SCIENCES WITH ELECTIVE AS SPORTS PHYSIOTHERAPY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss the Anterior Cruciate ligament injury reconstruction rehabilitation program with rationale for a football player. (20)
- 2) Describe the principles of taping and application of taping technique in Shoulder Instability. (20)
- 3A) Explain the Importance of pre competition meal and sports specific nutrition for distance runners. (10)
- 3B) Discuss the exercise guidelines in hypo and hyper baric environment. (10)
- 3C) Explain the role of warm up and flexibility training on injury prevention strategies for the overhead athletes. (10)
- 3D) Describe the role of sports physiotherapist in promotion of healthy lifestyle in the community. (10)
- 4A) Summarize the Legal rights of disabled athletes. (5)
- 4B) Enumerate the training guidelines for paediatric sporting individual. (5)
- 4C) Enumerate the Principles of Athletic Shoe selection. (5)
- 4D) Briefly describe any two Special Tests for Diagnosing SLAP lesion. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (MUSCULOSKELETAL SCIENCES) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.3.3 - MUSCULOSKELETAL SCIENCES WITH ELECTIVE AS HAND THERAPY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the pathophysiology of stiff hand. Discuss the evaluation and treatment of early stiff hand. (20)
(5+7+8 = 20 marks)
2. Explain the tendon injuries under the following headings:
- 2A) Healing of flexor tendon injuries. (5)
2B) Principles of repair of flexor tendon injuries in zone 2. (5)
2C) Management following tendon repair in zone 2. (10)
3. Answer the following:
- 3A) Discuss the role of exercises in the management of Lateral Epicondylalgia. (10)
3B) Explain the patho mechanics of finger deformities in Rheumatoid Arthritis. (10)
3C) Outline neurodynamic assessment and treatment in CTS. (10)
3D) Outline the assessment of scapular dysfunction. (10)
4. Explain briefly:
- 4A) Scar evaluation. (5)
4B) Sensory re-education. (5)
4C) Splinting for wrist drop. (5)
4D) Trigger finger. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (COMMUNITY PHYSIOTHERAPY) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.4.1 - COMMUNITY PHYSIOTHERAPY WITH ELECTIVE AS OCCUPATIONAL HEALTH AND
ERGONOMICS
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) A 29-year-old male works as a public motivational speaker. He experienced a L2 level incomplete spinal cord injury and is presently using wheelchair. Explain the ergonomic assessment and design considerations needed for a wheelchair that can enable him to drive a car independently. (20)
(15+5 = 20 marks)
- 2) In an assembly line at a packaging industry, four workers are working on rotation. Explain the functional capacity evaluation considering repetitive upper bodywork and long standing job. Describe the strategies that can prevent work-related disorders in the workers. (20)
(10+10 = 20 marks)
- 3A) Explain the work-related risk factors encountered in static bending work. (10)
- 3B) Explain strategies to reduce work-related disorders experienced by surgeons in an Operation Theatre. (10)
- 3C) Explain the management strategies minimizing risks for jobs involving manual material handling. (10)
- 3D) Explain strategies to reduce pain and discomfort experienced by a worker at a visual display terminal. (10)
- 4A) Explain the challenges encountered by aging workforce. (5)
- 4B) Explain the methods to assess cognitive demands of work. (5)
- 4C) Explain the role of hand anthropometry for design of racquet handles. (5)
- 4D) Explain the pathophysiology behind repetitive muscle activity leading to work related musculoskeletal disorders. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (GERIATRICS) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.5.1 - GERIATRICS WITH ELECTIVE AS HEALTHY AGING
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the preventive management for the residents living in a long-term care setting who are at risk for sarcopenia. (20)

2. Discuss health promotion for older adults under the following headings:
 - 2A) Risk assessment. (10)
 - 2B) Evidence-based intervention strategies for NCDs. (10)

 - 3A) Describe the functional fitness testing for aging bank employees. (10)
 - 3B) Develop a multi-component intervention strategy for skeletal demineralization in older adults. (10)
 - 3C) Outline the ten priorities proposed by WHO for a decade of action on healthy aging. (10)
 - 3D) Explain methods to identify potential fallers in a camp setting. (10)
 - 4A) Primordial prevention in older adults. (5)
 - 4B) Methods of health promotion in older adults. (5)
 - 4C) Nutritional needs of elderly athletes. (5)
 - 4D) Barriers to wellness program for older adults. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (GERIATRICS) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.5.2 - GERIATRICS WITH ELECTIVE AS AGING AND DISEASE
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) A 62-year-old female with a known case of polio presents with severe dyspnoea and reduced physical performance. Plan an exercise and rehabilitation program for her. (20)
- 2) A 78-year-old male had fall and lost consciousness. He was transferred to the hospital and diagnosed with femoral neck fracture and treated surgically. Plan an assessment and long-term management care. (20)
(10+10 = 20 marks)
- 3A) Explain the role of Physiotherapy in predicting home care for older adults. (10)
- 3B) Explain the management of a 68-year-old adult with dementia staying in an assisted living setting. (10)
- 3C) Explain the role of Physiotherapy in osteoporosis. (10)
- 3D) Explain the role of physiotherapy in the management of grade II pelvic organ prolapse. (10)
- 4A) Explain two techniques for preventing secondary osteoarthritis. (5)
- 4B) Compare and contrast the services given and delivery methods adopted in home care. (5)
- 4C) Explain the role of Physiotherapy in gastrointestinal conditions affecting older adults. (5)
- 4D) Explain the pathophysiology of osteoporosis. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (PEDIATRICS) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.6.1 - PAEDIATRICS WITH ELECTIVE AS PAEDIATRIC NEUROLOGY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Classify Cerebral Palsy. Discuss the physiotherapy assessment and management of a 2 year old child with dyskinetic Cerebral Palsy. (20)
(2+8+10 = 20 marks)
- 2) Classify Obstetric Brachial Plexus Injury. Discuss the Physiotherapy assessment and management of a 6 month old baby with right Erb's Palsy. (20)
(2+8+10 = 20 marks)
- 3A) Describe the role of Physiotherapy in the management of a 1 year old child diagnosed with Down Syndrome with gravitational insecurity. (10)
- 3B) Discuss the complications and management strategies for a child with acute brain injury. (10)
- 3C) Discuss the assessment and management of a 5 year old child with Attention Deficit Hyperactivity Disorder. (10)
- 3D) Describe the post-surgical assessment and management of a child with obstructive Hydrocephalus. (10)
- 4A) Briefly describe Gower's sign. (5)
- 4B) Discuss the Tonic Labyrinthine Reflex. (5)
- 4C) Discuss the Gross Motor Function Measure. (5)
- 4D) Briefly describe the different types of Standing frame. (5)

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FOURTH SEMESTER MPT (PEDIATRICS) DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: MPT 702.6.2 - PAEDIATRICS WITH ELECTIVE AS NEONATAL AND PAEDIATRIC RESPIRATORY CARE
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Classify congenital heart diseases. Discuss the physiotherapy assessment and management of an 8 month old baby with Atrial Septal Defect. (20)
(4+6+10 = 20 marks)
- 2) What are the stages of Hypoxic Ischemic Encephalopathy? Discuss the neuromotor physiotherapy assessment and management of a 4 day old infant born at 34 weeks who presents with diminished neonatal reflexes. (20)
(2+8+10 = 20 marks)
- 3A) Discuss the pharmacological and physiotherapy management of a child with Asthma. (10)
(4+6 = 10 marks)
- 3B) Describe the physiotherapy management for a child with Cystic Fibrosis. (10)
- 3C) Discuss the physiotherapy interventions in the management of childhood obesity. (10)
- 3D) Discuss the principles of exercise prescription for typically developing children. (10)
- 4A) Discuss any two immunizations for childhood respiratory infections. (5)
- 4B) Discuss the complications of Broncho Pulmonary Dysplasia. (5)
- 4C) Describe the benefits of Swaddling. (5)
- 4D) Discuss the effects of Hyperbilirubinemia. (5)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (OBG) DEGREE EXAMINATION - MAY/JUNE 2022

SUBJECT: MPT 702.7.1 - OBSTETRICS AND GYNECOLOGY WITH ELECTIVE AS OBSTETRIC PHYSIOTHERAPY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) A 37 years old obese woman at 26 weeks of gestation, has been diagnosed to have gestational diabetes mellitus. Plan out a detailed physiotherapy evaluation and management for this client. (20)
(10+10 =20 marks)
- 2) A 29 year old multigravida, who is in active labor, with 4 to 5 cm dilated cervix, complains of severe low back pain, during contraction. Plan out a Physiotherapy assessment and evidence based intervention program which is safe and competent enough to make her delivery comfortable. (20)
(10+10 = 20 marks)
- 3A) Explain the pathophysiology and clinical features for pre-eclampsia in pregnancy. (10)
(5+5 =10 marks)
- 3B) Explain the role of the physiotherapy in the management of breast engorgement, in postpartum period. (10)
- 3C) Discuss the physiotherapy assessment and management of unilateral Sacroiliac joint dysfunction during pregnancy. (10)
(5+5 = 10 marks)
- 3D) Discuss the physiotherapy assessment and management for a patient diagnosed to have Diastasis Recti Abdominus during pregnancy. (10)
- 4A) Explain the utility of Beighton score in pregnant women. (5)
- 4B) Discuss the comprehensive physiotherapy evaluation of a new born baby. (5)
- 4C) Enlist the bio-markers in early pregnancy and its importance. (5)
(2+3 = 5 marks)
- 4D) Explain the importance of Bishop Score during labor. (5)

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