

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (CARDIOPULMONARY SCIENCES - CRITICAL CARE PHYSIOTHERAPY) DEGREE
EXAMINATION - JUNE 2024
SUBJECT: PTH6112 - CRITICAL CARE PHYSIOTHERAPY
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) A 28 year old man, a case of road traffic accident with GCS of E3M4VT is referred to you. He has a history of multiple rib fractures, a known history of aspiration pneumonia and right tibia fracture (that has been fixed and stabilized). Describe the clinical assessment of this patient and develop an evidence-based physiotherapy program for this patient during the ICU. Make a note of the factors to be monitored during therapy as well. (20)
(8+8+4 = 20 marks)
- 2) A 38 year old lady, a known case of bronchial asthma and with a BMI of 32Kg/m², underwent a pancreaticoduodenectomy (i.e., Whipple's procedure) a day back. She is now referred to you for Physiotherapy. Describe the clinical assessment and develop an evidence-based physiotherapy program to facilitate her recovery through her hospitalization from ICU to ward to discharge. (20)
(8+12 = 20 marks)
- 3A) Explain the role of therapeutic body positioning and the changes observed with various positions. (10)
- 3B) Describe the oxygen delivery systems and highlight the hazards of oxygen therapy. (10)
(8+2 = 10 marks)
- 3C) Describe the role of aerosol therapy in maintaining and promoting bronchial hygiene. Mention the various agents that may be used to achieve these goals. (10)
(6+4 = 10 marks)
- 3D) A 52 year old man on mechanical ventilator is being suctioned. You then observe the patient going into asystole. Explain the emergency procedure you will perform until the advanced team arrives on scene. (10)
- 4A) List the contraindications to early mobilization. (5)
- 4B) Interpret the following arterial blood gas:
pH - 7.28, PaO₂ - 90mmHg (room air), PaCO₂ - 60mmHg, HCO₃ - 28mmol/L.
What is the appropriate management to correct this condition? (5)
(3+2 = 5 marks)
- 4C) Describe the physiotherapy management for an infant with meconium aspiration. (5)
- 4D) Describe the hand washing technique. (5)

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (CARDIOPULMONARY SCIENCES - CARDIOPULMONARY REHABILI) DEGREE

EXAMINATION - JUNE 2024

SUBJECT: PTH6122 - PHYSIOTHERAPY IN CARDIOPULMONARY REHABILITATION
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Develop an evidence-based exercise plan for a 60-year-old male patient who has recently recovered from congestive heart failure. Outline the essential components of the exercise plan, including details such as exercise type, intensity, duration, frequency, and progression. (20)
(12+8 = 20 marks)
- 2) Evaluate approaches to promote physical activity for enhancing cardiovascular and pulmonary health. Assess the effectiveness of these strategies, considering implementation challenges and the impact of technology. (20)
(10+10 = 20 marks)
- 3A) Discuss the evidence supporting the implementation of pulmonary rehabilitation for a 50 year old individual with COPD and Cor pulmonale. Evaluate the effectiveness of PR, considering factors such as patient outcomes, adherence, and long-term benefits. (10)
(6+4 = 10 marks)
- 3B) Discuss the effectiveness of PR interventions in improving postoperative outcomes, respiratory function, and overall recovery for an individual who underwent pneumonectomy and was referred for PT on post op day 1. (10)
- 3C) Utilize the FIIT principle for designing aerobic, muscular, and flexibility exercises for an individual with obesity. Describe how each component of the FIIT principle can be tailored to meet the specific needs and abilities of an individual with obesity, considering factors such as safety, progression, and adherence to exercise. (10)
(4+6 = 10 marks)
- 3D) Compare and contrast the effectiveness of in-hospital, out-of-hospital, and community-based modes of delivery for cardiac rehabilitation. Mention the benefits of each approach, including their impact on patient outcomes and adherence to rehabilitation programs. (10)
(5+5 = 10 marks)
- 4A) Outline a summary of the mechanisms through which exercise can benefit individuals with type 2 diabetes mellitus. (5)
- 4B) Identify the role of physical activity in the management of obesity. (5)
- 4C) Plan an exercise-based cardiac rehabilitation program for a 58 year old individual with post-CABG in phase 1. (5)
- 4D) Explain the public health programs implemented in India and globally for the prevention and management of cardiovascular and pulmonary diseases. (5)

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (CARDIOPULMONARY SCIENCES - HEALTH PROMOTION AND FITNESS) DEGREE

EXAMINATION - JUNE 2024

SUBJECT: PTH6132 - PHYSIOTHERAPY IN HEALTH PROMOTION AND FITNESS
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain effective behavioral strategies based on the Health Belief Model for encouraging and sustaining physical activity among individuals with type 2 diabetes. (20)
- 2) Discuss the significance of measuring physical activity for health maintenance and evaluate various methods for measuring physical activity in a 45-year-old man with obesity. (20)
(8+12 = 20 marks)
- 3A) Consider a 45-year-old male diagnosed with Stage II Hypertension. Describe potential factors contributing to his exercise intolerance. (10)
- 3B) Describe the procedure of graded cardiopulmonary exercise testing (Graded CPETs). (10)
- 3C) Develop an evidence-based fitness program suitable for a middle-aged computer worker with a BMI of 27.8 kg/m², who is motivated to improve overall fitness but has limited time for exercise. (10)
- 3D) Describe methods to assess performance-related fitness specifically tailored for 30-year-old women. (10)
- 4A) Explain different factors affecting cardiorespiratory fitness in a child. (5)
- 4B) Explain innovative methods utilizing technology to encourage physical activity among older adults. (5)
- 4C) Describe metabolic adaptations that occur in response to endurance training. (5)
- 4D) Explain the challenges and opportunities of promoting adherence to exercise. (5)

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT DEGREE EXAMINATION - JUNE 2024
SUBJECT: PTH6212 - PHYSIOTHERAPY IN OCCUPATIONAL HEALTH AND ERGONOMICS
(SPL: COMMUNITY PHYSIOTHERAPY - OCCUPATION HEALTH AND ERGONOMICS)
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) A 32-year-old male works as a public motivational speaker. He experienced a L2 level incomplete spinal cord injury and is presently using wheelchair for ambulation. Explain the ergonomic assessment and design considerations needed for a two-wheeler that can enable him to drive and travel independently. (20)
(15+5 = 20 marks)
- 2) Explain the functional capacity evaluation considering repetitive upper bodywork and long standing job of a surgeon. Describe the strategies that can prevent work-related disorders in the workers. (20)
(10+10 = 20 marks)
- 3A) Appraise the challenges encountered by aging workforce. (10)
- 3B) Explain strategies to reduce work-related disorders experienced by nurses posted in a labour room. (10)
- 3C) Explain the management strategies minimizing risks for jobs involving manual material handling. (10)
- 3D) Explain strategies to facilitate return to work of worker with vestibular dysfunctions and disabilities. (10)
- 4A) List the work-related risk factors encountered in repetitive work. (5)
- 4B) List TWO the methods to assess cognitive demands of work. (5)
- 4C) Mention the role of hand anthropometry for design of racquet handles. (5)
- 4D) Draw the process of pathophysiology behind repetitive muscle activity leading to work related musculoskeletal disorders. (5)

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (GERIATRICS - HEALTHY AGING) DEGREE EXAMINATION - JUNE 2024
SUBJECT: PTH6312 - PHYSIOTHERAPY IN HEALTHY AGING
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- | | | |
|-----|--|------|
| 1) | Explain the health promotion strategies for healthy independent aging. | (20) |
| 2) | Appraise fitness evaluation in older adults. | (20) |
| 3A) | Describe the intrinsic and extrinsic barriers to healthy aging. | (10) |
| 3B) | Outline ten priorities for healthy aging proposed by WHO. | (10) |
| 3C) | Explain the risk reduction strategies for falls in older adults. | (10) |
| 3D) | Summarize the strategies to promote PA programs in institutions. | (10) |
| 4A) | List the injuries among older athletes. | (5) |
| 4B) | Relate nutrition and muscle health among older adults. | (5) |
| 4C) | Mention ANY TWO national healthy aging initiatives in India. | (5) |
| 4D) | Choose ANY TWO screening tools to identify urinary incontinence. | (5) |

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (GERIATRICS - AGING AND DISEASE) DEGREE EXAMINATION - JUNE 2024
SUBJECT: PTH6322 - PHYSIOTHERAPY IN AGING AND DISEASES
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- | | | |
|-----|--|------|
| 1) | Explain the evaluation and management strategies for pain in older adults. | (20) |
| 2) | Appraise the pathological manifestations of aging in the musculoskeletal system. | (20) |
| 3A) | Describe disability with aging. | (10) |
| 3B) | Outline the principles of geriatric rehab | (10) |
| 3C) | Analyze the advantages and disadvantages of long-term care settings in India. | (10) |
| 3D) | Select criteria to identify potentially unwanted medications in elderly. | (10) |
| 4A) | Recall the adverse drug reactions in elders. | (5) |
| 4B) | What are Progeroid syndromes? | (5) |
| 4C) | List the delivery methods of geriatric home care. | (5) |
| 4D) | Mention the special considerations while prescribing exercises to cognitively impaired older adults. | (5) |

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (MUSCULOSKELETAL SCIENCE - MANUAL THERAPY) DEGREE EXAMINATION - JUNE 2024
SUBJECT: PTH6412 - MANUAL THERAPY
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- | | | |
|-----|---|------|
| 1) | Explain in detail about the principles of mulligan technique and its application for shoulder dysfunction. | (20) |
| 2) | Discuss the principles of Maitland's approach and the application of Maitland's technique for the management of Ankle Impairment. | (20) |
| 3A) | Outline the significance of McKenzie classification of spinal pain. | (10) |
| 3B) | Explain the application of Integrated neuromuscular inhibition technique for the management of trigger point. | (10) |
| 3C) | Discuss the application of positional release technique for the management of chronic neck pain. | (10) |
| 3D) | Outline the application of Cyriax's selective tissue tension test in assessment of shoulder dysfunction. | (10) |
| 4A) | List the pain measurement tools used for measuring central sensitization. | (5) |
| 4B) | Summarize the principles and importance of Neurodynamic technique. | (5) |
| 4C) | Discuss briefly on functional stability training. | (5) |
| 4D) | Outline the importance of movement diagram on spinal dysfunction. | (5) |

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

**FOURTH SEMESTER MPT (MUSCULOSKELETAL SCIENCE - SPORTS PHYSIOTHERAPY) DEGREE EXAMINATION -
JUNE 2024
SUBJECT: PTH6422 - SPORTS PHYSIOTHERAPY
(2021 SCHEME)**

Marks: 100

Duration: 180 mins.

Answer all the questions.

- | | | |
|-----|---|------|
| 1) | Explain the phases of Throwing biomechanics. Explain the conservative rehabilitation of shoulder impingement.
(10+10 = 20 marks) | (20) |
| 2) | Explain the rehabilitation of Medial tibial stress syndrome in runner. | (20) |
| 3A) | Discuss the mechanism and management of peripheral fatigue in badminton players. | (10) |
| 3B) | Explain in detail cardiovascular adaptations due to exercise in male athletes. | (10) |
| 3C) | Discuss in detail injury prevention assessment in football players. | (10) |
| 3D) | Discuss exercise prescription plan for low back pain in gymnast. | (10) |
| 4A) | Explain the role of kidney in thermoregulation. | (5) |
| 4B) | Discuss in the detail the Heel lock taping technique for ankle sprain in badminton player. | (5) |
| 4C) | Explain in one-leg stability test to assess hip and core stabilization in overhead athletes. | (5) |
| 4D) | Explain the ergogenic aids used by archers. | (5) |

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (MUSCULOSKELETAL SCIENCE - HAND REHABILITATION) DEGREE EXAMINATION - JUNE
2024

SUBJECT: PTH6432 - HAND REHABILITATION
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the causes, contributing factors, mechanism of work related Carpal tunnel syndrome. (20)
Explain screening methods, assessment and management of work related Carpal tunnel syndrome.
(10+10 = 20 marks)
- 2) Discuss in detail regarding physiotherapy management following neurotization in brachial plexus injuries at Erb's point. (20)
- 3A) Discuss the evidence - based recommendations for stiff hand management. (10)
- 3B) Summarize the sensibility assessment methods in hand. (10)
- 3C) Describe the pathomechanics and functional limitations of Ulnar claw hand. (10)
- 3D) Discuss desensitization techniques in hypersensitive hand. (10)
- 4A) Explain Biomechanical changes in wrist arthrodesis. (5)
- 4B) Explain Upper limb prosthetic terminal device. (5)
- 4C) Explain the methods of hand edema assessment. (5)
- 4D) Explain types and clinical features of carpal instability. (5)

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (NEUROSCIENCES - NEUROLOGICAL PHYSIOTHERAPY) DEGREE EXAMINATION - JUNE

2024

SUBJECT: PTH6512 - PHYSIOTHERAPY IN NEUROLOGICAL CONDITIONS
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- | | | |
|-----|--|------|
| 1) | Explain the assessment and physiotherapy management for a 65-year-old patient with idiopathic Parkinson's disease in Hoehn and Yahr stage 2. | (20) |
| 2) | Discuss the principles of motor priming therapies used in the stroke rehabilitation. | (20) |
| 3A) | Discuss evidence in the treatment of paraparesis following traumatic spinal cord injury. | (10) |
| 3B) | Explain the concept and techniques of treating patients with progressive ataxia. | (10) |
| 3C) | Describe the impairments and its physiotherapy management of a patient with Guillain Barre Syndrome in post recovery phase. | (10) |
| 3D) | Explain the psychometric properties of fatigue assessment tools. | (10) |
| 4A) | Outline the physiotherapy management of bilateral vestibular disorders. | (5) |
| 4B) | Enumerate the principles of facial neuromuscular reeducation. | (5) |
| 4C) | Appraise the criteria used to diagnose amyotrophic lateral sclerosis. | (5) |
| 4D) | Explain the scope of caregiver-led rehabilitation in stroke. | (5) |

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (NEUROSCIENCES - NEUROSURGICAL PHYSIOTHERAPY) DEGREE EXAMINATION - JUNE
2024

SUBJECT: PTH6522 - PHYSIOTHERAPY IN NEUROSURGICAL CONDITIONS
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss the levels of cognitive functioning and explain the physiotherapy management of a patient with E4VTM5 following diffuse axonal injury. (20)
- 2) Explain the assessment and physiotherapy management of a patient with T10 spinal cord injury post spinal stabilization surgery. (20)
- 3A) Outline the early mobilization protocol for patients with post decompressive craniectomy. (10)
- 3B) Describe the impairments and physiotherapy management techniques following hydrocephalous. (10)
- 3C) Appraise the evidence for physiotherapy management of central vestibular disorders. (10)
- 3D) Explain the conservative and post- surgical physiotherapy management following peripheral nerve injuries. (10)
- 4A) Discuss the factors influencing intracranial pressure. (5)
- 4B) Explain the role of physiotherapy in decannulation for a patient with head injury. (5)
- 4C) Summarize the craniovertebral anomalies and its clinical features. (5)
- 4D) Add a note on stem cell therapy for spinal cord injury. (5)

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (OBG - OBSTETRIC PHYSIOTHERAPY) DEGREE EXAMINATION - JUNE 2024
SUBJECT: PTH6612 - PHYSIOTHERAPY IN OBSTETRICS
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

1. Analyse and plan physiotherapy assessment and management for a 28-year-old primigravida with a body mass index of 29 kg/m² with the following findings.

- | | | |
|-----|--|------|
| 1A) | Glucose tolerance test values: Fasting:121mg/d L, Post one hour:176mg/d L, Post 2 hours: 167 mg/d L. | (10) |
| 1B) | Complaints of extreme fatigue and involuntary leakage of urine while coughing and bending. | (10) |

2. Analyse and plan physiotherapy assessment and management for a 24-year old multigravida, with a 6 months post-delivery status, with the following complaints:

- | | | |
|-----|---|------|
| 2A) | Bulging of abdomen around umbilicus whenever she lifts her head to get up from the bed. | (10) |
| 2B) | Severe pain localised to her low back even at rest and difficulty in doing bed transitions. | (10) |
| 3A) | Explain the role of Physiotherapy during labour. | (10) |
| 3B) | Explain the role of physiotherapy in management of pain around incision site following lower segment caesarean section. | (10) |
| 3C) | Discuss the oro-motor problems and Physiotherapy evaluation of a new born.
(4+6 = 10 marks) | (10) |
| 3D) | Explain the complications associated with prolonged bed rest during pregnancy. | (10) |
| 4A) | Classify placenta previa and risks associated with it during pregnancy.
(3+2 = 5 marks) | (5) |
| 4B) | Discuss the disadvantages of epidural analgesia during labour. | (5) |
| 4C) | Discuss the components of APGAR score. | (5) |
| 4D) | Explain the effects of exercise in management of postpartum depression. | (5) |

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (OBG - GYNECOLOGICAL PHYSIOTHERAPY) DEGREE EXAMINATION - JUNE 2024
SUBJECT: PTH6622 - PHYSIOTHERAPY IN GYNECOLOGY
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Analyze and plan a detailed evidence based Physiotherapy assessment and intervention program (20)
for a 62-year-old postmenopausal woman with T-score of minus 1.6.
She also complaints of severe low back pain while bending and lifting weights with kyphotic posture.
(10+10 = 20 marks)
- 2) 28-year old lady eager to conceive is diagnosed to have dyspareunia for 3 years. Plan a detailed (20)
Physiotherapy evaluation and management.
(10+10 = 20 marks)
- 3A) Discuss the role of core strengthening exercises during menopause transition for prevention of long (10)
term complications.
- 3B) Compare between abdominal hysterectomy and vaginal hysterectomy on its effect on postoperative (10)
recovery period and long term physical functions.
(5+5 = 10 marks)
- 3C) Discuss the causes and physiotherapy management for constipation in elderly women. (10)
(5+5 = 10 marks)
- 3D) Discuss the health implications of patients following chemotherapy and precautions to be taken (10)
while prescribing exercises.
(6+4 = 10 marks)
- 4A) Explain the factors contributing to balance dysfunctions in elderly women. (5)
- 4B) Explain the clinical presentation of Proctalgia fugax. (5)
- 4C) Discuss the advantages of associated with tension-free vaginal taping procedure. (5)
- 4D) Discuss the strategies to prevent stress urinary incontinence in a woman. (5)

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (PAEDIATRICS - PAEDIATRIC NEUROLOGY) DEGREE EXAMINATION - JUNE 2024
SUBJECT: PTH6712 -PHYSIOTHERAPY IN PAEDIATRIC NEUROLOGY
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- | | | |
|-----|---|------|
| 1) | A 10 year old female child with scissoring gait has come with complaint of repeated urinary tract infection, inability to sustain independent walking for long distance and inability to use hands functionally for all the activities of daily living. Analyze the condition and plan physiotherapy treatment for her. | (20) |
| 2) | A 8 year old boy complains of experiencing frequent falls with progressive decrease in the lower limb strength along with difficulty getting up from the floor. The child has difficulty going to school and stays in rural communities and unable to access health care facilities. Analyze the condition and plan a rehabilitation program for the child. | (20) |
| 3A) | Discuss the etiology, risk factors, pathophysiology and clinical presentation of children with Down Syndrome. | (10) |
| 3B) | Discuss an evidence-based physiotherapy assessment and management of paediatric spinal cord tumours. | (10) |
| 3C) | Discuss the etiology, risk factors, pathophysiology and clinical presentation of obstetric brachial plexus injury. | (10) |
| 3D) | Discuss an evidence-based physiotherapy assessment and management for a 5-year child with autism. | (10) |
| 4A) | Explain the role of nerve conduction studies in pediatric population. | (5) |
| 4B) | Explain in brief the implications of pharmacological management in Spasticity. | (5) |
| 4C) | Explain the role of physiotherapy in rehabilitation of 3 year child with Arnold Chiari Malformation. | (5) |
| 4D) | Explain the critical and sensitive periods of brain development. | (5) |

-----End-----

Question Paper

Exam Date & Time: 25-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER MPT (PEDIATRICS - NEONATAL AND PEDIATRIC RESPIRATORY CARE) DEGREE EXAMINATION
- JUNE 2024

SUBJECT: PTH6722 - PHYSIOTHERAPY IN NEONATAL AND PAEDIATRIC RESPIRATORY CARE
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Plan an evidence-based developmental care assessment and interventions in primary health center. (20)
(10+10 = 20 marks)
- 2) Explain preoperative and postoperative management for 10-year child who is undergoing pneumonectomy. Add a note on musculoskeletal complication following pneumonectomy. (20)
(15+5 = 20 marks)
- 3A) Discuss intrauterine development of heart and list the types of congenital heart disease. (10)
- 3B) Explain various types of monitoring strategies for respiratory system in neonatal intensive care unit. (10)
- 3C) Discuss clinical manifestation in children with ventricular septal defect (VSD) and explain the immediate postsurgical management of a child with VSD closure. (10)
(2+8 = 10 marks)
- 3D) Plan mobilization program for 5-year-old child admitted in intensive care unit receiving mechanical ventilation via tracheostomy. (10)
- 4A) Illustrate foetal circulation. (5)
- 4B) Explain signs, symptoms and physiotherapy management of bronchiectasis. (5)
- 4C) Outline the pharmacological management in children with bronchial asthma. (5)
- 4D) Enumerate chest physiotherapy techniques for upper lobe for 2 months old infant with pneumonia. (5)

-----End-----