

Question Paper

Exam Date & Time: 14-May-2025 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER BPT DEGREE EXAMINATION - MAY/JUNE 2025
SUBJECT: PTH2201 - EXERCISE PHYSIOLOGY
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain ANY FIVE acute responses and chronic adaptations in cardiovascular system due to exercise. (20)
(10+10 = 20 marks)
- 2) Explain neural adaptations due to exercise and mention mechanism of muscular strength gains. (20)
Outline glycogen sparing.
(8+8+4 = 20 marks)
- 3) Define fatigue. Explain management of peripheral fatigue. (10)
(2+8 = 10 marks)
- 4) Explain role of ATP-PCR system during exercise with example. (10)
- 5A) Mention health risk associated with hypobaric conditions. (5)
- 5B) Outline the respiratory responses due to exercise. (5)
- 5C) Explain metabolic responses due to exercise. (5)
- 5D) Explain immune system response due to medium intensity exercise. (5)
- 5E) Outline the role of thyroid gland hormones for exercise. (5)
- 5F) Explain the role of carbohydrate in athletic diet. (5)
- 6A) Define VO₂ max in terms of kg/ml/min. (2)
- 6B) Define Excess post exercise oxygen consumption (EPOC). (2)
- 6C) Define muscular power. (2)
- 6D) Mention ANY TWO physiological responses to exercise in heat. (2)
- 6E) List ANY TWO physiological responses to exercise in cold. (2)

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Question Paper

Exam Date & Time: 16-May-2025 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER BPT DEGREE EXAMINATION - MAY/JUNE 2025
SUBJECT: PTH2202 - THEORETICAL CONCEPTS IN EXERCISE THERAPY-II
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain in detail the physiology of balance. Outline the various clinical tests for assessing balance. List the names of different non-equilibrium coordination tests for the upper and lower extremities. (20)
(8+7+5 = 20 marks)
- 2) Define Posture. Explain the mechanism for postural control. Summarize the postural deviations- forward head, sway back. List the factors that influence posture. (20)
(2+5+6+7 = 20 marks)
- 3) Define Gait. Explain the phases of the gait cycle. Write a brief note on the antalgic gait pattern. (10)
(2+5+3 = 10 marks)
- 4) Elaborate on the principles and steps for a safe transfer of a neurological patient. (10)
(5+5 = 10 marks)
- 5A) Explain the prescription of a wheelchair to a patient with T12 incomplete paraplegia. (5)
- 5B) Write a note on Frenkel's exercise. (5)
- 5C) Compare the hold-relax vs contract-relax technique of PNF. (5)
- 5D) Write a note on the techniques for measurement of the axillary, elbow crutch, and walker mobility aids. (5)
- 5E) Explain the principles of gait re-education. (5)
- 5F) Explain the effects and uses of functional positions. (5)
- 6A) Define step length and stride length. (2)
- 6B) Write two contraindications for using a wheeled walker. (2)
- 6C) List any FOUR uses of the PNF technique. (2)
- 6D) List the FOUR key principles of functional re-education. (2)
- 6E) List TWO indications for the balance test. (2)

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