

# Question Paper

Exam Date & Time: 18-Apr-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - APRIL 2022  
SUBJECT: PTH2102 - THEORETICAL CONCEPTS IN EXERCISE THERAPY - I  
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- |     |   |      |
|-----|---|------|
| 1)  | Explain principles and determinants of resistance training  | (20) |
| 2)  | Describe physiological and therapeutic effects of mobilization. Explain the grades of mobilization                                  | (20) |
| 3)  | Explain the precautions and contraindications of stretching   | (10) |
| 4)  | What is repetition maximum? Explain methods to measure 1RM with examples. What are the precautions of measuring repetition maximum? | (10) |
| 5A) | Classify stretching techniques  | (5)  |
| 5B) | Define weight bearing and non-weight bearing exercises with diagrams  | (5)  |
| 5C) | Describe the concept of periodization   | (5)  |
| 5D) | Summarize the principles of stretching technique  | (5)  |
| 5E) | Explain concentric and eccentric muscle contraction   | (5)  |
| 5F) | Summarize indications and contraindications of mobilization   | (5)  |
| 6A) | Enlist ways to deliver home program   | (2)  |
| 6B) | Enlist the uses of spinal traction  | (2)  |
| 6C) | What are the merits of group exercises?   | (2)  |
| 6D) | FITT principle  | (2)  |
| 6E) | Enlist modes of traction  | (2)  |

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# Question Paper

Exam Date & Time: 19-Apr-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - APRIL 2022  
SUBJECT: PTH2101 - BIOMECHANICS  
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain kinematics of knee movements. Add a note on locking and unlocking of knee. (20)
- 2) Define gait. Explain phases of normal gait. (20)
- 3) Explain scapulo-humeral rhythm in detail. (10)
- 4) Explain pump handle and bucket handle mechanism in detail. (10)
- 5A) Explain nutation and counter nutation in sacrum. (5)
- 5B) Explain arches of foot. (5)
- 5C) Explain in detail kinetics of hip flexion. (5)
- 5D) Write any three ligaments of elbow joint and their function. (5)
- 5E) Explain briefly about cylindrical grip. (5)
- 5F) Write primary muscles of the temporomandibular joint and their function. (5)
- 6A) Define carrying angle in elbow joint. (2)
- 6B) Name any five ligaments of spine. (2)
- 6C) Define Q angle. (2)
- 6D) List any two major tasks of gait. (2)
- 6E) List the muscles of shoulder flexion. (2)

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# Question Paper

Exam Date & Time: 20-Apr-2022 (10:00 AM - 12:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BOT / BPT / BSc. MIT / BSc. RRT & DT / BAOTT / BSc. PFT / BSc. CVT / BSc. EMT / BSc. RT  
DEGREE EXAMINATION - APRIL 2022  
SUBJECT: PAT 2103 - PATHOLOGY  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

**Answer all the questions.**

**Draw diagrams wherever necessary.**

- |     |  |     |
|-----|--|-----|
| 1A) | Define shock. List the types of shock.<br>(2+2 = 4 marks)  | (4) |
| 1B) | Describe the pathogenesis of shock caused by bacterial infection.  | (6) |
| 2A) | Define fracture.   | (2) |
| 2B) | Describe the process of fracture healing. List the factors influencing fracture repair.<br>(5+3 = 8 marks) | (8) |
| 3A) | List two causes and describe morphology of a granuloma with a diagram.                                     | (5) |
| 3B) | Describe the basic laboratory investigations and clinical features of hemophilia.                          | (5) |
| 3C) | Describe the predisposing factors and complications of atherosclerosis.                                    | (5) |
| 3D) | Describe etiology and clinical features of bronchiectasis.   | (5) |
| 4A) | Define atrophy and give two examples.  | (2) |
| 4B) | Define inflammation. Give an example each for acute and chronic inflammation.                              | (2) |
| 4C) | Define neoplasia. Give two examples of benign tumors.  | (2) |
| 4D) | Mention the etiology and mode of transmission of tuberculosis.   | (2) |
| 4E) | Define karyotyping. Name one syndrome due to chromosomal abnormality.                                      | (2) |

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# Question Paper

Exam Date & Time: 21-Apr-2022 (10:00 AM - 12:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - APRIL 2022  
SUBJECT: PTH2103 - THEORETICAL CONCEPTS IN ELECTROTHERAPY - II  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- |     |  |      |
|-----|--|------|
| 1)  | Explain different types of faradic stimulation.  | (10) |
| 2)  | Define Iontophoresis. List the Ions and its therapeutic uses. List the dangers of Iontophoresis.<br>(2+5+3 = 10 marks) | (10) |
| 3A) | Explain ionization for hyperhidrosis.  | (5)  |
| 3B) | Describe rheobase and chronaxie.   | (5)  |
| 3C) | Define motor point. Draw the motor points for facial stimulation.  | (5)  |
| 3D) | Explain therapeutic effects and uses of constant direct current.   | (5)  |
| 4A) | List the therapeutic effects of medium frequency currents.   | (2)  |
| 4B) | What are the parameters of the TENS?   | (2)  |
| 4C) | Enumerate sweep in IFT.  | (2)  |
| 4D) | What is combination therapy?   | (2)  |
| 4E) | What is Wallerian degeneration?  | (2)  |

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