

Question Paper

Exam Date & Time: 09-Dec-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2019

SUBJECT: BPT 201 - BIOMECHANICS

(2016 SCHEME)

Monday, December 09, 2019 (14.00 - 17.00)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Describe the articular surfaces of the knee joint. Explain the kinematics of knee joint movements. Add a note on screw home mechanism. (5+10+5 = 20 marks) (20)
- 2) Define Gait cycle. Explain phases and sub phases of gait cycle. Add a note on Determinants of Gait. (2+10+8 = 20 marks) (20)
- 3) Estimate the joint reaction force on a normal hip joint during single limb stance in a person with 90 Kgs body weight. (10)
- 4) Explain the systems involved in maintaining Posture. Add a note on anterior pelvic tilt and its effects. (6+4 = 10 marks) (10)
- 5) **Short Answers:**
 - 5A) Describe the structure of the extensor mechanism of the hand. (5)
 - 5B) Describe the kinematics of supination and pronation. (5)
 - 5C) Explain the arches of foot and their functions. (5)
 - 5D) Explain the Kinematics of cervical spine. (5)
 - 5E) What is Center-Edge angle and its clinical significance? Mention the normal and abnormal angles. (5)
 - 5F) Explain the role of rotator cuff muscles on shoulder stability. (5)
- 6) **Brief Answers:**
 - 6A) Explain Lumbopelvic Rhythm. (2)
 - 6B) Explain the parts of typical vertebrae. (2)
 - 6C) Explain the plantar flexor activity during normal gait cycle. (2)
 - 6D) Define Genu Valgum. (2)
 - 6E) Mention any two postural deviation of Trunk. (2)

-----End-----

Question Paper

Exam Date & Time: 10-Dec-2019 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.O.T./ B.Sc. P.F.T./ BPT/ B.Sc. C.V.T./B.Sc. R.T./ B.Sc. M.I.T./B.Sc. RRT&DT DEGREE EXAMINATION - DECEMBER 2019

SUBJECT : MICR 201 - MICROBIOLOGY

(2016 SCHEME)

Tuesday, December 10, 2019 (14.00 - 16.00)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Classify hypersensitivity reactions with examples. Explain the mechanism of hypersensitivity reaction mediated by IgE antibody. (10)
(4+6 = 10 marks)
- 2) Explain the pathogenesis and laboratory diagnosis of staphylococcal skin infections. (10)
(5+5 = 10 marks)
- 3) **Write short notes on:**
 - 3A) Laboratory diagnosis of cholera (5)
 - 3B) Etio-pathogenesis of tetanus (5)
 - 3C) Laboratory diagnosis of fungal infections (5)
 - 3D) Bacterial growth curve (5)
- 4) **Answer the following questions:**
 - 4A) Write two modes of transmission for Hepatitis B virus infection. (2)
 - 4B) Write two contributions of Robert Koch. (2)
 - 4C) Classify immunity (2)
 - 4D) List two measures adopted for prevention of enteric fever (2)
 - 4E) Write the functions of bacterial flagella. (2)

-----End-----

Question Paper

Exam Date & Time: 12-Dec-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2019

SUBJECT: BPT 203 - EXERCISE THERAPY - I

(2016 SCHEME)

Thursday, December 12, 2019 (14.00 - 17.00)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Define treatment plane with a neat diagram. Write the indications and contraindications of joint mobilization. Mention the principles of joint mobilization. (4+6+10 = 20 marks) (20)
- 2) Define strengthening exercise. Describe the different types of strengthening exercises. (5+15 = 20 marks) (20)
- 3) Describe the Kendall 10-point grading scale in Manual Muscle Testing. (10)
- 4) Discuss the Maitland and Kaltenborn grades of joint mobilization. (10)

- 5) **Short Answers:**
- 5A) What is mechanical resistance exercise and discuss its variables. (5)
- 5B) Explain DeLorme strengthening technique. (5)
- 5C) Discuss open-chain and closed chain exercises with an example. (5)
- 5D) Discuss the different modes of stretching. (5)
- 5E) Discuss the effects of spinal traction. (5)
- 5F) What is Hold-relax technique? Explain with an example. (5)

- 6) **Brief Answers:**
- 6A) What are accessory joint movements? (2)
- 6B) Mention any two indications and contraindications of spinal traction. (2)
- 6C) What is creep? (2)
- 6D) What is Delayed Onset Muscle Soreness? (2)
- 6E) What are trick movements? (2)

-----End-----

Question Paper

Exam Date & Time: 13-Dec-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2019

SUBJECT: BPT 205 - ELECTROTHERAPY - II

(2016 SCHEME)

Friday, December 13, 2019 (14.00 - 17.00)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Mention the therapeutic frequency and wavelength used in short wave diathermy. Explain the methods of electrode placements in shortwave diathermy by condenser field method with neat labelled diagrams. Discuss the dangers of short wave diathermy. (20)
(2+10+8 = 20 marks)
- 2) Define iontophoresis. Explain the physiological effects of constant direct current. Discuss the polarity and effects and uses of any **four** ions used in iontophoresis. (20)
(2+10+8 = 20 marks)
- 3) Discuss the techniques of application of ultrasound with suitable examples for each technique. (10)
- 4) Explain the construction and working of Kromayer lamp with neat diagram. (10)
- 5) **Short Answers:**
 - 5A) Physiological effects of pulsed short wave diathermy (5)
 - 5B) Properties of LASER (5)
 - 5C) Dangers of infra-red irradiation (5)
 - 5D) Classification of erythema reactions in UVR (5)
 - 5E) Non thermal effects of ultrasound (5)
 - 5F) Emitters used in microwave diathermy (5)
- 6) **Brief Answers:**
 - 6A) Mention the types of LASER. (2)
 - 6B) What is combination therapy? (2)
 - 6C) Define biofeedback. (2)
 - 6D) What is phonophoresis? (2)
 - 6E) Define cosine law. (2)

----End----