



MANIPAL ACADEMY OF HIGHER EDUCATION
THIRD SEMESTER BPT DEGREE EXAMINATION - JANUARY 2018

SUBJECT: BPT 201 - BIOMECHANICS
(2016 SCHEME)

Saturday, January 13, 2018 (14.00 - 17.00)

Answer ALL questions

Marks: 100

Duration: 180 mins.

1) Answer the following questions:

- 1A) What is gait cycle? Explain the phases and sub phases of gait cycle. Enumerate the gait variables. Add a note on Determinants of Gait. (20)
(2+8+4+6 = 20 marks)
- 1B) Explain the Kinematics of Glenohumeral joint. Explain the mechanism of dynamic stabilization of Glenohumeral joint. (20)
(10+10 = 20 marks)

2) Answer the following:

- 2A) Explain the structure and function of dorsal digital expansion (Extensor hood) of the finger. (10)
- 2B) Explain the role of patella in Knee extension. Add a note on static and dynamic stabilizers of patella. (10)
(6+4 = 10 marks)

3) Write short answers on:

- 3A) Structure and functions of Intervertebral disc (5)
- 3B) Factors responsible for stability of Hip joint (5)
- 3C) Explain the effect of active and passive insufficiency of rectus femories muscle. (5)
- 3D) Kinematics of cervical spine (5)
- 3E) Describe the systems involved in postural mechanism. (5)
- 3F) Describe the Kinematics of inversion and eversion of foot. (5)

4) Write brief answers on:

- 4A) What are the functions of Thoraco lumbar fascia? (2)
- 4B) Describe plantar flexor activities during gait Phases. (2)
- 4C) Mention Arthrokinematic motion of Hip joint. (2)
- 4D) Mention the position of the elbow in which Biceps is most efficient as elbow flexor. (2)
- 4E) Mention any four trabecular systems of the upper end of femur. (2)



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SUBJECT: BPT 203 - EXERCISE THERAPY - I
(2016 SCHEME)

Thursday, January 11, 2018 (14.00 - 17.00)

Answer ALL questions.

Marks: 100

Duration: 180 mins.

1) Answer the following questions:

- 1A) Explain the basic concepts of joint motion that guides and affects joint mobilization techniques. Add a note on grades of movement for non-thrust techniques. (20)
(12 + 8 = 20 marks)
- 1B) Describe Progressive Resistance Exercise program. (20)

2) Answer the following:

- 2A) Explain principles of Manual muscle testing. (10)
- 2B) Describe the determinants and types of stretching exercises. (10)
(5 + 5 = 10 marks)

3) Write short notes on:

- 3A) What are the types of Spinal traction? Mention the effects of Spinal traction. (5)
- 3B) Describe the method for application of break test in Manual muscle testing. (5)
- 3C) Define trick movements. Describe any three types for trick movements with examples. (5)
- 3D) Describe the role of Golgi Tendon Organ in moderating response to stretching. (5)
- 3E) Describe the limitations for Manual Muscle testing. (5)
- 3F) Compare Open and Closed kinetic chain exercises. (5)

4) Write brief answers on:

- 4A) What is flexibility? (2)
- 4B) Mention any two contraindications to spinal traction. (2)
- 4C) What is muscle power? (2)
- 4D) What is Creep? (2)
- 4E) Define Manipulation. (2)

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MANIPAL ACADEMY OF HIGHER EDUCATION
THIRD SEMESTER BPT DEGREE EXAMINATION - JANUARY 2018

SUBJECT: BPT 205 - ELECTROTHERAPY - II
(2016 SCHEME)

Tuesday, January 09, 2018 (14.00 - 17.00)

Answer ALL questions.

Marks: 100

Duration: 180 mins.

1) Answer the following questions:

- 1A) Explain the physiological effects of UVR. Discuss the indications for UVR treatment. (20)
(10+10 = 20 marks)
- 1B) Discuss the techniques of application and dosage of Ultrasound. Add a note on contraindications and dangers of ultrasound. (20)
(6+4+5+5 = 20 marks)

2) Answer the following:

- 2A) Explain the physiological effects of constant direct current. (10)
- 2B) Discuss the contraindications to Short wave diathermy. (10)

3) Write short answers on:

- 3A) Therapeutic uses of IRR (5)
- 3B) Properties of high frequency currents (5)
- 3C) Physiological effects of pulsed short wave diathermy. (5)
- 3D) Emitters used in Microwave diathermy. (5)
- 3E) Properties of LASER (5)
- 3F) Discuss the effects and uses of ions used in iontophoresis. (5)

4) Write brief answers on:

- 4A) Define Biofeedback. (2)
- 4B) List any four indications for extracorporeal shock wave therapy. (2)
- 4C) What is minimal erythema dose? (2)
- 4D) Mention the types of electrodes used in SWD. (2)
- 4E) Define combination therapy. (2)

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