

# Question Paper

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



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.O.T./ B.Sc. M.L.T./ B.Sc. P.F.T./ B.Sc. AOTT/ B. Sc. E.M.T./B.Sc. E.S.S./ B.Sc. N.M.T./B. Opt./  
B.Sc. H.I.M./ BPT/ B.Sc. M.R.T./B.Sc. C.V.T./B.Sc. R.T./ B.Sc. M.I.T./B.Sc. RRT&DT/M.Sc. M.R.P. DEGREE EXAMINATION - DECEMBER 2019  
SUBJECT : PHYS 101 - PHYSIOLOGY- I /PHYSIOLOGY  
(2016 RV/2018/2019 SCHEME)  
Monday, December 02, 2019 (14.00 - 16.00)

Marks: 50

Duration: 120 mins.

### Answer all the questions.

- 1A) Give the normal value of total body water. Mention the distribution of total body water and the ionic composition of body fluids. (5)
- 1B) Explain primary active transport with an example. Mention two differences between simple diffusion and facilitated diffusion. (5)
- 2A) Enumerate three functions of hemoglobin. Mention normal hemoglobin concentration in adult males and females. (5)
- 2B) Draw a neat labeled diagram of an ECG from limb lead II. Mention the causes for different waves in ECG. Mention the clinical uses of ECG. (5)

### 3) Answer the following questions:

- 3A) Describe the mechanism of carbon dioxide transport from tissues to the lungs. (5)
- 3B) Describe the events that occur during neuromuscular transmission in the form of flow chart. (5)
- 3C) Name the photoreceptors of eye and mention their location and functions. (5)
- 3D) Write three differences between skeletal and cardiac muscle. Write a short note on rigor mortis. (5)

### 4) Answer the following in brief:

- 4A) Draw a neat labeled diagram of multipolar neuron. (2)
- 4B) Define resting membrane potential. Give its normal value in nerve. (2)
- 4C) Mention two functions of lymph. (2)
- 4D) Define cardiac output. Give its normal value. (2)
- 4E) Classify different types of hypoxia. (2)

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# Question Paper

Exam Date & Time: 03-Dec-2019 (02:00 PM - 04:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.O.T./ B.Sc. M.L.T./ B.Sc. P.F.T./ B.Sc. AOTT/ B. Sc. E.M.T./B.Sc. E.S.S./ B.Sc. N.M.T./B. Opt./ B.Sc.  
H.I.M./ BPT/ B.Sc. M.R.T./B.Sc. C.V.T./B.Sc. R.T./ B.Sc. M.I.T./B.Sc. RRT&DT/ M.Sc. M.R.P. DEGREE EXAMINATION DECEMBER 2019  
SUBJECT : ANAT 103/ANAT 101 - ANATOMY-I/ANATOMY  
(2016 RV/2018/2019 SCHEME)  
Tuesday, December 03, 2019 (14.00 - 16.00)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Name the parts of the respiratory tract. Describe the pharynx in detail. (10)  
(4+6 = 10 marks)
- 2) Name the parts of central nervous system. Describe the external features and internal structure of spinal cord. Mention three ascending and three descending tracts present in the spinal cord. (10)  
(2+5+3 = 10 marks)
- 3) Write short answers on:
  - 3A) Liver (5)
  - 3B) Suprarenal glands (5)
  - 3C) Small intestine (5)
  - 3D) Ventricles of the heart (5)
- 4) Write briefly on:
  - 4A) Spermatic cord (2)
  - 4B) Skin (2)
  - 4C) Uterine tube (2)
  - 4D) Ureter (2)
  - 4E) Types (classification) of bones (2)

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# Question Paper

Exam Date & Time: 06-Dec-2019 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2019  
SUBJECT: BPT 103/BPT 107 - BIOPHYSICS AND BASICS OF ELECTROTHERAPY  
(2016 RV/2016 SCHEME)  
Friday, December 06, 2019 (14.00 - 17.00)

Marks: 100

Duration: 180 mins.

### Answer all the questions.

- 1) Define lever. Discuss in detail the types of levers. Give an illustrated example of each type of lever. (20)  
(4+10+6 = 20 marks)
- 2) Explain stress strain curve with a neat labelled diagram. Explain the properties of connective tissue. (20)  
(10+10 = 20 marks)
- 3) Explain resistances in series and in parallel with appropriate diagrams. (5+5 = 10 marks) (10)
- 4) Define Electric shock and its preventive measures. (2+8 = 10 marks) (10)
- 5A) Discuss the properties of ligament. (5)
- 5B) Discuss the physiological effects of cryotherapy. (5)
- 5C) What are the various types of electrodes used in electrotherapy? (5)
- 5D) Discuss the modes of transport across cell membrane. (5)
- 5E) Discuss the types of muscle work. (5)
- 5F) Discuss the method of application of moist heat therapy. (5)
- 6A) Define Joule's law. (2)
- 6B) State the Grothus law. (2)
- 6C) What is a diode and a triode? (2)
- 6D) What is semiconductor doping? (2)
- 6E) Name the types of choke coil. (2)

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# Question Paper

Exam Date & Time: 07-Dec-2019 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2019

SUBJECT: BPT 101 - BASICS OF EXERCISE THERAPY - I

(2016 RV SCHEME)

Saturday, December 07, 2019 (14.00 - 17.00)

Marks: 100

Duration: 180 mins.

### Answer all the questions.

- 1) Enumerate the normal values of vital signs. Describe the method of measuring any two vital signs. (20)  
(6+14 = 20 marks)
- 2) Discuss the features of ideal therapeutic gymnasium. Describe any five types of equipment used for resistance exercises in therapeutic gymnasium. (5+15 = 20 marks) (20)
- 3) What are Deep sensations? Explain in detail the assessment of any two deep sensations. (10)  
(2+8 =10 marks)
- 4) Discuss the methods to induce local relaxation. (10)
- 5A) Discuss any five indications and contraindications for postural drainage. (5)
- 5B) Write about segmental breathing exercises. (5)
- 5C) Discuss the method of testing plantar reflex. (5)
- 5D) Discuss sitting as starting position. (5)
- 5E) Merits and demerits of home program. (5)
- 5F) Illustrate the common auscultation points for anterior, lateral and posterior chest wall. (5)
- 6A) Difference between wheeze and crackles (2)
- 6B) What is a muscle spindle? (2)
- 6C) Mention any two uses of group exercises. (2)
- 6D) Name the types of pelvic tilt. (2)
- 6E) Give any two indications for reflex testing. (2)

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