



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.O.T./ B.Sc. M.L.T./ B.Sc. P.F.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 2018

SUBJECT : ANATOMY/ANATOMY I

(ANAT 101/ANAT 103/BOPT 101/BHIM 101/ BMRT 101)

(2016 RV/2016 SCHEME)

Saturday, December 01, 2018 (14.00 - 16.00)

Answer ALL questions.

Marks: 50

Duration: 120 mins.

- |     |                                                                                                        |      |
|-----|--------------------------------------------------------------------------------------------------------|------|
| 1)  | Name the parts of the renal system. Describe the right and left kidneys in detail.<br>(4+6 = 10 marks) | (10) |
| 2)  | Name the parts of the respiratory tract. Describe the nasal cavity in detail.<br>(4+6 = 10 marks)      | (10) |
| 3A) | Right atrium of the heart                                                                              | (5)  |
| 3B) | Pancreas                                                                                               | (5)  |
| 3C) | Testis                                                                                                 | (5)  |
| 3D) | Midbrain                                                                                               | (5)  |
| 4A) | Classification (types) of epithelia                                                                    | (2)  |
| 4B) | Uterus                                                                                                 | (2)  |
| 4C) | Eyeball                                                                                                | (2)  |
| 4D) | Thyroid gland                                                                                          | (2)  |
| 4E) | Names of ventricles of the brain                                                                       | (2)  |

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# Question Paper

Exam Date & Time: 05-Dec-2018 (02:00 PM - 04:00 PM)



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**FIRST SEMESTER B.O.T./ B.Sc. M.L.T./ B.Sc. P.F.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 2018  
SUBJECT : PHYS 101/BHIM 103/BRES 105/BMRT 103 - PHYSIOLOGY /PHYSIOLOGY - I  
(2016 RV SCHEME/2016 SCHEME)  
Wednesday, December 05, 2018 (14.00 - 16.00)**

**Answer ALL questions.**

**Marks: 50**

**Duration: 120 mins.**

- 1A) Define cardiac output. Give its normal value. Mention three conditions where cardiac output is increased. (5)
- 1B) List three properties of cardiac muscle. Explain any one. (5)
- 2) **Describe erythropoiesis under the following headings:** (10)  
a) Definition  
b) Site of formation in adults  
c) Stages of erythropoiesis  
d) Developmental changes occurring during different stages  
e) Two factors regulating erythropoiesis
- 3A) Describe the chemical regulation of respiration. (5)
- 3B) Draw a neat labeled diagram of neuromuscular junction. Describe the events that occur during neuromuscular transmission in the form of flow chart. (5)
- 3C) Draw a neat and labelled diagram of visual pathway and name the photoreceptors. (5)
- 3D) **Define the following:** (5)  
a) Cyanosis  
b) Hypoxia  
c) Apnea  
d) Dyspnea  
e) Asphyxia
- 4A) Mention two functions of middle ear. (2)
- 4B) Write two differences between simple diffusion and active transport. (2)
- 4C) **Define:** (2)  
a) Residual volume  
b) Vital capacity
- 4D) Write two differences between myelinated and unmyelinated nerve fibres. (2)



# Question Paper

Exam Date & Time: 08-Dec-2018 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

**FIRST SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2018**  
**SUBJECT: BPT 101 - BASICS OF EXERCISE THERAPY - I**  
**(2016 RV SCHEME)**

**Saturday, December 08, 2018 (14.00 - 17.00)**

**Answer ALL questions.**

**Draw diagrams wherever necessary.**

**Marks: 100**

**Duration: 180 mins.**

- 1A) Define Postural tone. Mention the most stable fundamental position with its effect and uses. Explain in detail the technique of providing the general relaxation in that stable position. (20)  
(2+8+10 = 20 marks)
- 1B) Classify breathing exercises. Explain the principles of breathing exercises. Describe the various segmental breathing exercises in detail. (20)  
(4+8+8 = 20 marks)
- 2A) Explain the technique of performing the postural drainage for the anterior basal segment of lower lobe. (10)
- 2B) Explain the method of auscultation of lungs in detail. (10)
- 3A) Principles of home program (5)
- 3B) Discuss any two Derived positions in Sitting. (5)
- 3C) Discuss the types of pulleys in therapeutic gymnasium. (5)
- 3D) Discuss the types of reflexes. (5)
- 3E) Advantages and disadvantages of group exercises (5)
- 3F) Discuss the method of measuring the normal pulse rate. (5)
- 4A) What are recreational exercises? (2)
- 4B) What is the root value for knee jerk? (2)
- 4C) Mention the types of pelvic tilts. (2)
- 4D) Mention **any two** adventitious breath sounds. (2)
- 4E) Define base of support. (2)

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**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**FIRST SEMESTER BPT DEGREE EXAMINATION - JANUARY 2018**  
**SUBJECT: BPT 103 - BIOPHYSICS AND BASICS OF ELECTROTHERAPY**  
**(2016 SCHEME)**

**Wednesday, January 10, 2018 (14.00 - 17.00)**

**Answer ALL questions.**

**Marks: 100**

**Duration: 180 mins.**

- 1A) Define cryotherapy. List the various techniques of application of cryotherapy and discuss (20) any **five** techniques in detail. (2+3+15 = 20 marks)
- 1B) Explain the measurement and factors determining the capacity of a condenser. Discuss (20) about the charging and discharging of a condenser. (10+5+5 = 20 marks)
- 2A) Explain the construction and working of a Moving coil milliamperemeter. (10)
- 2B) Define electromagnetic spectrum. Add a note on the laws governing the electromagnetic radiation. (10)  
(2+8 = 10 marks)
- 3A) Discuss the physiological effects of superficial heat. (5)
- 3B) Discuss the factors affecting the resistance of a conductor. (5)
- 3C) Explain the properties of magnetic lines of force. (5)
- 3D) Define Fuse and its construction. (5)  
(2+3 = 5 marks)
- 3E) Discuss the types of choke coil. (5)
- 3F) Construction of a rheostat (5)
- 4A) Name the methods of application of paraffin wax bath. (2)
- 4B) What is Lewis Hunting response? (2)
- 4C) Define Lever. (2)
- 4D) State Newton's third law. (2)
- 4E) Define one volt. (2)

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# Question Paper

Exam Date & Time: 12-Dec-2018 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

**FIRST SEMESTER BPT DEGREE EXAMINATION - DECEMBER 2018**  
**SUBJECT: BPT 103/BPT 107 - BIOPHYSICS AND BASICS OF ELECTROTHERAPY**  
**(2016 RV/2016 SCHEME)**

**Wednesday, December 12, 2018 (14.00 - 17.00)**

**Answer ALL questions.**

**Marks: 100**

**Duration: 180 mins.**

- 1A) Define rectification. Elaborate the methods to rectify an alternating current. (20)
- 1B) What are the physical characteristics of a ligament? How do a ligament get attached to bone audits zones? Enumerate on its biophysical property. (20)  
(2+6+12 = 20 marks)
- 2A) What are Levers? Classification of levers with an example each from human body. (10)  
(1+9 = 10 marks)
- 2B) Describe ANY TWO methods of application of conductive heating. (10)
- 3A) Stress strain curve with neat and labelled diagram (5)
- 3B) Elaborate the properties of magnet (5)
- 3C) Define electric shock. What are the precautions for preventing electric shock? (5)
- 3D) Pain Gate mechanism (5)
- 3E) Laws governing electromagnetic spectrum (5)
- 3F) Ring main circuit (5)
- 4A) What is Lewis Hunting reaction? (2)
- 4B) Define a Farad. (2)
- 4C) What is capacitive reactance? (2)
- 4D) Define line of gravity. (2)
- 4E) Define Ohm's law. (2)

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