



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.

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| 1) | Name the parts of the renal system. Describe the right and left kidneys in detail.
(4+6 = 10 marks) | (10) |
| 2) | Name the parts of the respiratory tract. Describe the nasal cavity in detail.
(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: 08-Dec-2018 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018
SUBJECT: BCVT 101 - CARDIAC ANATOMY AND PHYSIOLOGY
(2016 RV SCHEME)

Saturday, December 08, 2018 (14.00 - 16.00)

Answer all the questions.

Draw the diagram wherever necessary.

Marks: 50

Duration: 120 mins.

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|-----|---|------|
| 1) | Explain the arterial supply of heart with a labelled diagram. | (10) |
| 2) | Describe external and internal anatomical features of right atrium. | (10) |
| 3A) | Write a short note on tricuspid valve. | (5) |
| 3B) | Explain first and second heart sounds and its abnormal condition. | (5) |
| 3C) | Explain vena cava and its branches. | (5) |
| 3D) | Write a short note on AV node. | (5) |
| 4A) | Define cardiac output and the factors affecting. | (2) |
| 4B) | Explain the medical terms: Commissurotomy, myocarditis | (2) |
| 4C) | Mention four clinical indications for Ambulatory BP monitoring. | (2) |
| 4D) | Define pulse pressure. Give two examples for wide pulse pressure. | (2) |
| 4E) | Mention two functions of AV valves. | (2) |

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Question Paper

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



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018
SUBJECT: BCVT 103 - BASIC ECG
(2016 RV SCHEME)

Tuesday, December 04, 2018 (14.00 - 16.00)

Answer all the questions.

Draw the diagram wherever necessary.

Marks: 50

Duration: 120 mins.

- 1) What is refractory period? Explain in detail with diagram. Describe phase 4 action potential in SA node and ventricular muscle cell. (10)
- 2) Explain the QRS genesis in normal and LBBB. Enumerate the ECG criteria for LBBB. (10)
- 3A) Describe the ECG signs in identifying the site of LAD occlusion in acute MI. (5)
- 3B) Explain complete heart block. List the causes of CHB. (5)
- 3C) Explain the ECG changes in pericarditis. (5)
- 3D) Write a short note on atrial enlargement. (5)
- 4A) Define Bazett's formula. (2)
- 4B) Draw Einthoven triangle. (2)
- 4C) Describe the precordial lead placement for V6, V7, V8. (2)
- 4D) What are bipolar leads? Draw circuit diagram for lead III. (2)
- 4E) Describe the methods to assess heart rate in regular rhythm. (2)

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Question Paper

Exam Date & Time: 05-Dec-2018 (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. 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)

4E) Mention two hazards of mismatched blood transfusion. (2)

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