

Question Paper

Exam Date & Time: 19-Apr-2021 (02:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.Sc.M.I.T./ B.O.T./B.Sc.C.V.T./B.Sc.RADIOOTHERAPY /B.Sc.P.F.T./BPT/B.Sc.E.M.T./B.Sc.A.T./
B.SC.RRT & DT/B.Sc.R.T./B.Opt./B.Sc.M.L.T./B.Sc.C.N.D./ B.Sc.N.M.T. DEGREE EXAMINATION - APRIL 2021
SUBJECT: ANA1101: ANATOMY-I / ANA1103: ANATOMY
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Name the parts of the brainstem. Describe the external and internal features of the pons. (10)
(3+7 = 10 marks)
- 2) Name the parts of the renal system. Describe the kidneys in detail (10)
(4+6 = 10 marks)

3. Write Short Notes on:

- 3A) Lungs (5)
- 3B) Uterus (5)
- 3C) Pituitary gland (5)
- 3D) Blood supply to heart (5)

4. Write Short Notes on:

- 4A) Cartilage (2)
- 4B) Pharynx (2)
- 4C) Large intestine (2)
- 4D) Pancreas (2)
- 4E) Spermatic cord (2)

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Question Paper

Exam Date & Time: 21-Apr-2021 (02:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.Opt./ B.O.T./ B.Sc.N.M.T./ B.Sc.E.M.T./ B.Sc.A.T./ B.Sc.M.L.T./ B.Sc.P.F.T./ B.SC.RRT & DT /
B.Sc.R.T./B.Sc.M.I.T./ B.Sc.C.V.T./ BPT /B.Sc.RADIOTHERAPY TECHNOLOGY/B.Sc.C.N.D. DEGREE EXAMINATION -
APRIL 2021
SUBJECT: PHY1101: Physiology - I / PHY1103: Physiology
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1A) Explain excitation- contraction coupling in skeletal muscle with the help of a flow chart. (5)
- 1B) Draw a neat labelled diagram of action potential recorded from a nerve fiber and give the ionic basis for different phases of the action potential. (5)
- 2A) Define blood pressure. Mention its normal value. Describe the response of baroreceptor for increased blood pressure. (5)
- 2B) Draw a labelled diagram of normal ECG recorded from limb lead II. Give the causes for the different waves of ECG. (5)

3. Write Short Notes on:

- 3A) Draw a labelled diagram of the visual pathway. Indicate lesion of visual pathway at left optic tract and name the defect in field of vision. (5)
- 3B) Explain the extrinsic pathway of blood coagulation, with the help of a flow chart. (5)
- 3C) List the antigens and antibodies in different blood groups of ABO and Rh systems. (5)
- 3D) Name the muscles of inspiration. Describe the mechanism of inspiration with help of a flow chart. (5)

4. Write Short Notes on:

- 4A) Name the cause and correction of myopia. (2)
- 4B) Define active transport. Give one example for the same. (2)
- 4C) Mention any **TWO** factors that shift the oxygen-hemoglobin dissociation curve to the right. (2)
- 4D) Name the receptors for taste and smell. (2)
- 4E) Define hypoxia. Mention the types of hypoxia. (2)

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Question Paper

Exam Date & Time: 23-Apr-2021 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER B.Sc. RESPIRATORY THERAPY/ B.Sc.ANAESTHESIA TECHNOLOGY DEGREE EXAMINATION -
APRIL 2021

SUBJECT: RES1101 - CLINICAL ANATOMY AND PHYSIOLOGY FOR RESPIRATORY CARE
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the mechanism of oxygen transport in the human body. List the factors that shift the oxygen dissociation curve to right and left side. What is the shape of a normal oxygen dissociation curve? (20)
(10+8+2 = 20 marks)
- 2) Define External and Internal respiration. Write the functions of nasal cavity. Draw a neat-labelled diagram of lower respiratory tract. Write the cartilages and muscles of Larynx. (20)
(2+4+6+8 = 20 marks)
- 3) Explain the different pressure gradients that occur during spontaneous breathing. Explain the role of diaphragm in breathing (10)
(5+5 = 10 marks)
- 4) Draw a neat diagram of heart and label the chambers and valves. Define cardiac output and write the factors that increases cardiac output. (10)
(6+4 =10 marks)
- 5A) Write a short note on helium dilution technique. (5)
- 5B) Write the definition of acids and bases. Write the normal values for pH, PaCO₂ and HCO₃⁻ (5)
(2+3 = 5 marks)
- 5C) Define glomerular filtration rate and write the functions of kidneys. (5)
(2+3 = 5 marks)
- 5D) Define Dalton and Graham's law of diffusion. Write the normal value for PaO₂ (5)
(4+1 = 5 marks)
- 5E) Name the different respiratory centres present in brain and its functions. (5)
- 5F) Draw a normal ECG waveform. Label the different waves, intervals and segments of the ECG. (5)
(2+3 = 5 marks)
- 6A) Name the equipment used to measure temperature and write the normal range of human body temperature. (2)
- 6B) Name the different stages of sleep (2)
- 6C) Write the normal barometric pressure and partial pressure of oxygen at sea level. (2)
- 6D) Define Vital Capacity (2)
- 6E) Interpret the following ABG. pH- 7.30, PaCO₂- 55mmHg and HCO₃⁻ -24mmol (2)

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