

MANIPAL UNIVERSITY**FIRST YEAR B.Sc. M.L.T./B.Sc. R.T./ B.Sc. M.I.T. DEGREE EXAMINATION – AUGUST 2013****SUBJECT: ANATOMY**

Monday, August 26, 2013

Time: 10:00 – 11:30 Hrs.

Max. Marks: 40

✍ Answer all the questions:

1. Describe the right atrium and arterial supply of heart.

(4+4 = 8 marks)

2. Name the parts of the pharynx. Describe the features of the nasopharynx. Add a note on its blood supply and nerve supply.

(1+4+3 = 8 marks)

3. Answer briefly on:

3A. Stratified epithelia

3B. Thalamus

3C. Ovary

3D. Tongue

3E. Prostate

3F. Bronchopulmonary segments

3G. Anal canal

3H. Circle of Willis

(3×8 = 24 marks)



MANIPAL UNIVERSITYFIRST YEAR B.O.T./ **B.Sc. M.L.T./** B.Sc. MIT./ B.Sc. R.T. DEGREE EXAMINATION – AUGUST 2013**SUBJECT: PHYSIOLOGY**

Tuesday, August 27, 2013

Time: 10.00-11.30 Hrs.

Max. Marks: 40

☞ Answer all questions. Draw diagrams wherever necessary.**1. Essay Questions:**

- 1A. Write the steps involved in the intrinsic and extrinsic mechanisms of blood coagulation.
- 1B. Define cardiac output. Give its normal value. Describe the regulation of cardiac output.
- 1C. Draw and label the pathway for light reflex. Add a note on myopia.
- 1D. Mention any three functions of growth hormone. List two clinical features of acromegaly.

(5×4 = 20 marks)

2. Write short answers for the following:

- 2A. Mention two actions of testosterone.
- 2B. List the movements of small intestine.
- 2C. List any two functions of hypothalamus.
- 2D. Mention any two properties of sensory receptors.
- 2E. Define vital capacity. Give its normal value in adult males.
- 2F. Mention two functions of platelets.
- 2G. List two differences between cardiac and smooth muscles.
- 2H. List two functions of lymph.
- 2I. Define the terms:
 - i) Transport maximum.
 - ii) Glomerular filtration rate
- 2J. Draw a labeled diagram of the nerve action potential.

(2×10 = 20 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. M.L.T. DEGREE EXAMINATION – AUGUST 2013****SUBJECT: BIOCHEMISTRY**

Wednesday, August 28, 2013

Time: 10.00-11.30 Hrs

Max. Marks: 40

✍ **Answer ALL questions.**

✍ **Draw diagrams and flow charts wherever appropriate.**

1. Write in detail the reactions of aerobic glycolysis.

(8 marks)

2. Write the reactions of β -oxidation of palmitic acid.

(6 marks)

3. **Write short notes on the following:**

3A. Lactose intolerance.

3B. Effect of substrate concentration on enzyme activity with a graph.

3C. Role of vitamin C and copper in collagen biosynthesis.

3D. THREE similarities and differences each between the types of protein energy malnutrition.

(4×4 = 16 marks)

4. **Answer the following:**

4A. Define the terms replication and translation.

4B. Classify acidosis with ONE example each.

4C. Write the normal serum levels of fasting glucose, total cholesterol, creatinine and urea.

4D. Write ONE reaction each in which coenzyme forms of thiamine and niacin are required.

4E. Explain mutual supplementation of proteins with the help of an example.

(2×5 = 10 marks)



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MANIPAL UNIVERSITY

FIRST YEAR B.Sc. M.L.T. DEGREE EXAMINATION – AUGUST 2013

SUBJECT: BIOMEDICAL INSTRUMENTATION TECHNIQUES

Thursday, August 29, 2013

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ **Answer ALL questions. Draw diagrams if necessary.**

1A. Describe in detail about incubators. Write the applications of incubator.

(6+4 = 10 marks)

1B. What is haemodialyzer. With the help of a diagram explain the working procedure of haemodialysis machine.

(4+6 = 10 marks)

1C. What are the different types of balances used in laboratory? Describe electronic analytical balance in detail.

(4+6 = 10 marks)

2. **Write detailed notes on:**

2A. Working principle of ECG.

2B. Refrigerator.

2C. Isoelectric focusing.

2D. EEG

2E. Fibroptic bronchoscopy.

2F. Electrodes in pH meter.

2G. Scanning electron microscope.

(5×7 = 35 marks)

3. **Write short notes on:**

3A. Principle of pH metre.

3B. Types of centrifuges.

3C. Homogenizer.

3D. Filters in colorimeter.

3E. Positive displacement vacuum pump.

(3×5 = 15 marks)

