

MANIPAL UNIVERSITY
FIRST YEAR B.Sc. M.L.T./ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T./B.Sc.C.V.T.
DEGREE EXAMINATION – MAY 2009

SUBJECT: ANATOMY

Monday, May 18, 2009

Time: 10.00-11.30 Hrs.

Max. Marks: 40

1. List the parts of female reproductive system. Describe the position, parts, relations and blood supply of the uterus.

(2+1+2+2+1 = 8 marks)

2. Explain the arterial supply and venous drainage of the heart.

(4+4 = 8 marks)

3. Answer briefly on:

3A. Skeletal muscle.

3B. Nasal septum.

3C. Superior vena cava.

3D. Nerve supply of tongue.

3E. Ureter.

3F. Right suprarenal gland.

3G. Cerebrospinal fluid.

3H. Corpus callosum.

(3×8 = 24 marks)



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DEGREE EXAMINATION – MAY 2009

SUBJECT: PHYSIOLOGY

Tuesday, May 19, 2009

Time: 10.00-13.00 Hours.

Max. Marks: 80

1. Explain the functions of different areas of cerebral cortex. (10 marks)

2. Describe mechanism of breathing. (10 marks)

3. Write briefly on the following:
 - 3A. Enumerate any four properties of cardiac muscle. Explain briefly any two of them.
 - 3B. Define venous return. Name any four factors influencing venous return. Explain how venous return affects cardiac output.
 - 3C. Draw and label the diagram of the cross section of the human eye. Mention the functions of any two structures.
 - 3D. Explain the actions of thyroid hormones on growth and development.
 - 3E. Mention the function of T-tubules and terminal cisternae of sarcotubular system. What are the sources of energy for muscular contraction?
 - 3F. Describe the structure and functions of the respiratory membrane.
 - 3G. Describe the functions of basal ganglia. Mention the clinical features of a disease due to a lesion in it.
 - 3H. Draw and label the normal electrocardiogram. Write a note on P-R interval. (5×8 = 40 marks)

4. Write short answer to each of the following:
 - 4A. Mention two actions of estrogen.
 - 4B. Define deglutition. Mention the stages of deglutition.
 - 4C. What is hemophilia? What is its cause?
 - 4D. How much is the normal body temperature? Name ONE change in the body when exposed to cold.
 - 4E. Mention the effects of sectioning of a motor nerve.
 - 4F. List the functions of placenta.
 - 4G. List the hormones which increase blood glucose level.
 - 4H. Name the lymphatic organs in the body. Mention the function of one of them.
 - 4I. What is meant by oxygen carrying capacity of blood? Give its normal value.
 - 4J. Mention the functions of saliva. (2×10 = 20 marks)

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DEGREE EXAMINATION – MAY 2009**

**SUBJECT: BIOCHEMISTRY
(NEW REGULATIONS)**

Wednesday, May 20, 2009

Time: 10.00-11.30 Hours

Max. Marks: 40

1. Explain the β -oxidation of palmitic acid. Add note on its energetic. (5+2 = 7 marks)
2. Describe the pathway of urea synthesis. Mention the disorders of urea cycle with defect. (4+2 = 6 marks)
3. Give an account of glycogen metabolism. (3+3 = 6 marks)
4. Discuss protein energy malnutrition in detail. (7 marks)
5. Explain how substrate concentration affects enzyme activity. (4 marks)
6. Write the steps involved in the activation of vitamin D in the body. (3 marks)
7. Write note on Dietary Fibers. (3 marks)
8. Explain Essential fatty acids under the following Definition, examples and functions. ($\frac{1}{2}+1+2\frac{1}{2} = 4$ marks)



MANIPAL UNIVERSITY**FIRST YEAR B.Sc. M.L.T. DEGREE EXAMINATION – MAY 2009****SUBJECT: BIOMEDICAL INSTRUMENTATION TECHNIQUES**

Thursday, May 21, 2009

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ Answer all questions. Draw diagrams if necessary.

1. Discuss the chromatographic technique. What are the different types of chromatography commonly used in the separation of substances?
(10 marks)
2. Draw the block diagram of an EEG machine. Explain the digital components and the recording of evoked potentials in an EEG machine.
(10 marks)
3. Explain the working of electron microscope in detail.
(10 marks)
4. Write detailed notes on:
 - 4A. ELISA
 - 4B. Electrophoresis
 - 4C. Autoclaves
 - 4D. MRI scan
 - 4E. Darkfield microscope
 - 4F. ECG wave forms
 - 4G. Centrifuges(5×7 = 35 marks)
5. Write short notes on:
 - 5A. Incubator
 - 5B. Blood gas analyzer
 - 5C. Spectrophotometer
 - 5D. Mammography
 - 5E. Hotair oven.(3×5 = 15 marks)

