

[LB 0212]

AUGUST 2012

Sub. Code: 1901

B.Sc - RADIOTHERAPY TECHNOLOGY

FIRST YEAR

PAPER – HUMAN ANATOMY & PHYSIOLOGY

Q.P. Code : 801901

Time : Three hours

Maximum : 100 marks

(180 Mins) Answer ALL questions in the same order.

I. Elaborate on:

**Pages Time Marks
(Max.)(Max.)(Max.)**

1. Describe the structure and functions of the lymphatic system. Name the main lymphatic groups and the extra lymphatic lymphoid tissues. Write 4 sentences about two diseases affecting the lymphatic system. 7 20 10
2. What is a nutrient? Name the main types of nutrients. Describe the food guide pyramid and give examples of foods from each group. Give examples and explain the fat soluble, water soluble and antioxidant vitamins. 7 20 10
3. List the structure of the nervous system and explain in detail with appropriate diagrams. Describe the three basic functions of the nervous system. 7 20 10

II. Write Notes on:

1. Explain the anatomy of the respiratory system with diagram. Mention one etiology for bronchogenic carcinoma and mention one cancer caused by asbestos exposure. 4 10 5
2. Describe the types of epithelial tissue with diagrams. 4 10 5
3. Describe the functions of blood. Describe also the physical characteristics and principal components of blood. 4 10 5
4. Describe the phases of digestion and explain the major hormones that regulate digestive activities. 4 10 5
5. Explain the task of nephrons in urine formation. 4 10 5
6. Define endocrine system and hormones. Mention 6 endocrine glands present in the body. 4 10 5
7. What are the parts of the female reproductive system? Where are they located in relation to each other? Describe the histology of uterus and cervix. 4 10 5
8. Describe the structure and function of nucleus. 4 10 5

III. Short Answers on:

1. Mention four structures that are present in

the mediastinum.	2	4	3
2. Name the types of muscles.	2	4	3
3. What is diaphysis and epiphysis and name the cancers arising from them.	2	4	3
4. Function of large intestine.	2	4	3
5. Surface anatomy of oesophagus.	2	4	3
6. Define: Embryology, surface anatomy and radiographic anatomy.	2	4	3
7. Define: Hypertrophy, Hyperplasia and Metaplasia.	2	4	3
8. Mention three functions of the skin.	2	4	3
9. Briefly explain the locations and functions of the seminal vesicles and the prostate.	2	4	3
10. List the three main parts of a cell and explain their functions.	2	4	3

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FEBRUARY 2013

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FIRST YEAR

PAPER – HUMAN ANATOMY & PHYSIOLOGY

Q.P. Code : 801901

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

I. Elaborate on:

(3 x 10 = 30)

1. What is the composition of skeleton? Mention the parts of skeletal system. Describe the appendicular skeleton with suitable diagram and list its function.
2. Describe the parts of urinary system with suitable diagram. Where is kidney located? Explain the process involved in the formation of urine.
3. Describe the structure of hypothalamus and the pituitary gland. Explain the influence of hypothalamus on the lobes of pituitary gland. Outline the actions of the hormones secreted by anterior and posterior lobes of the pituitary gland.

II. Write Notes on:

(8 x 5 = 40)

1. What is a tissue? Mention the 4 types of tissues. Write short notes on types of muscle tissue with suitable diagram.
2. Describe the location, structure and function of larynx.
3. Describe briefly about lymphatic system.
4. Describe the structure and function of the principal salivary glands. Explain the role of saliva in digestion.
5. Describe the structure of spinal cord. Write briefly on autonomic nervous system.
6. Describe the structure and function of cytoplasm, cytosol and organelles with suitable diagram.
7. Describe the location of adrenal glands. Briefly write about the hormones secreted by them and its functions.
8. Describe the structure of skin. Explain the principal function of the skin.

III. Short Answers on:

(10 x 3 = 30)

1. Define the following:
 Physiology
 Anterior
 Posterior
2. Mention 6 organs and structures present in the pelvic cavity.
3. Outline the structure of mature long bone with diagram.
4. How are joints classified?
5. Describe the parts of large intestine.
6. Mention the parts of cardiovascular system.
7. Define the term anaemia. Mention three types of anaemia.
8. List the hormones secreted by endocrine pancreas. Explain how blood glucose levels are regulated.
9. List the constituent food groups of a balanced diet.
10. Mention three structures that are present in the mediastinum.

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AUGUST 2013

Sub.Code :1901

B.Sc. RADIOTHERAPY TECHNOLOGY

FIRST YEAR

Paper I – HUMAN ANATOMY & PHYSIOLOGY

Q.P. Code: 801901

Time: Three hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

3 x 10 = 30

1. Describe the structure and functions of the lymphatic system. Name the main lymphatic groups and the extra lymphatic lymphoid tissues. Write 4 sentences about two diseases affecting the lymphatic system.
2. What are nephrons? Describe its structure and function with suitable diagram.
3. Describe the general features of connective tissue. How are connective tissues classified? List the various types.

II. Write notes on

8 x 5 = 40

1. Describe the structure of a cell with a diagram. Which organelles contribute to synthesizing protein hormones and packaging them into secretory vesicles.
2. Describe the functions of blood. Describe also the physical characteristics and principal components of blood.
3. Define tissue. Name the four basic types of human tissues and state the characteristics of each.
4. Describe the location of epidural, subdural and subarachnoid space suitable diagram.
5. Draw the food guide pyramid and label.
6. Describe the phases of digestion and explain the major hormones that regulate digestive activities.
7. Describe in detail the anatomy of respiratory system with suitable diagram.
8. What are the parts of the female reproductive system? Where are they located in relation to each other? Describe the histology of uterus and cervix.

III. Short answers on

10 x 3 = 30

1. What separates the thoracic cavity from the abdominopelvic cavity?
Mention one of its important function.
2. Define: a. superficial b. hypertrophy c. hyperplasia
3. Name 6 organ systems of human body.
4. List the names and chemical symbols of 12 most abundant chemical elements in the human body.
5. What is the function of lacrimal apparatus?
6. Name the bone diseases caused by Vitamin C and D deficiency.
7. List the roles of each of the three anatomical regions of the Pharynx in respiration.
8. Name the major salivary glands and describe its function.
9. What is Pleura? Distinguish the parietal pleura from the visceral pleura.
10. What is a cardiac cycle?

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FEBRUARY 2014

Sub.Code :1901

B.Sc. RADIOTHERAPY TECHNOLOGY

FIRST YEAR

Paper I – HUMAN ANATOMY & PHYSIOLOGY

Q.P. Code: 801901

Time: Three hours

Maximum : 100 Marks

Answer all questions

I. Elaborate on:

(3x10 = 30)

- 1) List the various constituents of blood. What are the functions of blood?
- 2) Describe menstrual cycle.
- 3) Classify Joints. Describe the different types of synovial joints with suitable examples .

II. Write notes on :

(8x5 = 40)

- 1) List the enzymes required for carbohydrate digestion, their source and their actions.
- 2) List the functions of the kidney.
- 3) List the hormones produced by the pituitary gland. Mention one function of each hormone.
- 4) Describe the production, circulation, absorption and clinical importance of cerebrospinal fluid.
- 5) Describe mitosis.
- 6) Describe the structure of a long bone.
- 7) Structure of the eye.
- 8) External features of the heart.

III. Short answers on :

(10x3 = 30)

- 1) Define anatomical position.
- 2) What is meant by blood pressure? What is the normal adult value of blood pressure?
- 3) What is meant by peristalsis?
- 4) List the important descending (motor) pathways in the body.
- 5) List the functions of the skin.
- 6) List the enzymes secreted in pancreatic juice.
- 7) Name the openings of the diaphragm with their corresponding vertebral levels.
- 8) Name the branches of the arch of aorta.
- 9) Name the parts of the pharynx.
- 10) Name the lobes of the cerebrum.

**B.Sc. RADIOTHERAPY TECHNOLOGY
FIRST YEAR
PAPER I – HUMAN ANATOMY & PHYSIOLOGY**

Q.P. Code: 801901

Time: Three hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3x10=30)

1. Enumerate the endocrine glands. Write in detail the anatomy and function of the thyroid gland. Define the terms hypothyroidism and hyperthyroidism.
2. With the help of a diagram, describe a synovial joint. Classify and explain the different types of synovial joints with suitable examples.
3. Describe the process of digestion and absorption of carbohydrates in the body.

II. Write notes on:

(8x5=40)

1. Structure and function of skin.
2. Describe the menstrual cycle.
3. Spleen
4. Mitosis
5. Describe the structure of an RBC. Where is it produced in the body? What are its functions?
6. List the functions of the liver.
7. List the hormones involved in pregnancy and lactation and state their functions.
8. Describe the production, circulation, absorption and clinical importance of cerebrospinal fluid.

III. Short answers on:

(10x3=30)

1. Name the parts of small intestine
2. Name the lobes of cerebrum
3. Name the parts of the pharynx
4. Name two structures seen in the posterior mediastinum
5. Name the recesses of the pleural cavity.
6. Functions of bile
7. Define the term reflex. What are the components of the reflex pathway?
8. What is meant by blood pressure? What is the normal adult value of blood pressure?
9. List the functions of plasma.
10. What is meant by peristalsis?

**B.Sc. RADIOTHERAPY TECHNOLOGY
FIRST YEAR
PAPER I – HUMAN ANATOMY AND PHYSIOLOGY**

Q.P. Code: 801901

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. With the help of a diagram describe the structure of an animal cell.
2. With the help of a neat diagram, describe the thoracic diaphragm.
3. Describe the process of formation of urine in the body.

II. Write Notes on:

(8 x 5 = 40)

1. Chambers of the heart
2. Internal features of the spinal cord.
3. Structure of the eyeball.
4. Describe the structure of an RBC. Where is it produced in the body?
What are its functions?
5. List the hormones involved in pregnancy and lactation and state their functions.
6. Describe Mitosis.
7. List the functions of the liver.
8. Stages of fertilization.

III. Short Answers on:

(10 x 3 = 30)

1. Define anatomical position.
2. Define coronal plane.
3. Name the branches of the arch of aorta.
4. List the enzymes secreted in pancreatic juice.
5. Define a bronchopulmonary segments
6. Name the parts of the small intestine.
7. Name the coverings of the brain.
8. Functions of the stomach.
9. List three hormones secreted from the anterior pituitary gland.
10. List two differences between skeletal, smooth and cardiac muscle.
