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Question Paper Code : 27512

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Second Semester

Pharmaceutical Technology

PY 6201 — FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Explain the cell divisions in humans.
2. Draw the structure of an animal cell and label it.
3. Write the composition and the functions of CSF.
4. What are neuromuscular junctions?
5. What are the functions of liver?
6. Draw the longitudinal section of kidney and label it.
7. Describe the factors associated with blood pressure maintenance.
8. Enumerate the functions of respiration.
9. Write the physiological actions of glucocorticoids.
10. Write short notes on the secondary sexual characters in females.

PART B — (5 × 16 = 80 marks)

11. (a) Define tissue and classify it. Explain the various types of epithelial tissues with neat diagram. (2 + 4 + 10)

Or

- (b) Explain various transport mechanisms across cell membranes. (16)

12. (a) Describe the structure and the functions of cerebrum.

Or

- (b) Describe the structure and the functions of typical synovial joints.

13. (a) Explain the anatomy of small intestine and the process of digestion occurring in the small intestine. (8 + 8)

Or

- (b) Describe the physiology of urine formation and explain the functions of kidney. (12 + 4)

14. (a) With a neat diagram explain the anatomy of the heart and write notes on conducting system and sounds of the heart. (7 + 5 + 4)

Or

- (b) Draw the anatomical structure of the lungs and explain mechanisms of respiration. (8 + 8)

15. (a) With a schematic representation explain the anatomy of thyroid gland. Explain the functions and the regulations of hormonal secretions by this gland. Mention its disorders. (6 + 4 + 4 + 2)

Or

- (b) Explain the physiology of menstruation. Describe testis and the role of testosterone in physiology. (8 + 4 + 4)

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Question Paper Code : 57770

B.E/B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Second Semester

Pharmaceutical Technology

PY 6201 – FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. Write a short note on Gap Junctions.
2. How will you measure the Total Blood Volume ?
3. What are the functions of Schwann Cells ?
4. Write a short note on Nodes of Ranvier.
5. Write a short note on protective mechanisms of Gastric Mucosa.
6. Write a short note on Somatostatin.
7. What is the physiological importance of lung surfactant ?
8. Write a short note on cardiac output.
9. What is thyrotoxicosis ?
10. Write a short note on effects of cretinism.

PART – B (5 × 16 = 80 Marks)

11. (a) (i) Describe the saltatory conduction in myelinated nerve fibres. (8)
(ii) What is resting membrane potential and action potential ? Describe how they could be measured. (8)

OR

- (b) What is homeostasis ? Discuss the control of homeostasis with examples. (16)

12. (a) (i) Discuss the role and functions of neurotransmitters. (6)
(ii) Discuss the anatomy and functions of parasympathetic nervous system. (10)

OR

- (b) Describe the anatomy of skeletal muscles and discuss the physiology of muscle contraction. (16)

13. (a) (i) Describe the events of cardiac cycle. (8)
(ii) Describe the hormonal and neural regulation of blood pressure. (8)

OR

- (b) (i) Describe the adaptations respiratory physiology at high altitudes. (8)
(ii) Describe the role of lungs in acid-base regulation. (8)

14. (a) (i) Describe the digestion and absorption of carbohydrates. (8)
(ii) Describe the anatomy and functions of nephron. (8)

OR

- (b) (i) Describe the mechanisms of urine formation. (8)
(ii) Describe the role of hormones in the glucose homeostasis. (8)

15. (a) (i) Discuss physiology of female reproductive cycle. (10)
(ii) Discuss role of corticosteroids in fluid and electrolyte homeostasis. (6)

OR

- (b) (i) Discuss the physiological role of thyroid hormones. (8)
(ii) Describe the hormones of anterior pituitary and their functions. (8)

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Question Paper Code : 72496

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Second Semester

Pharmaceutical Technology

PY 6201 – FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the functions of skeletal muscles.
2. List the different types of movement associated with joints.
3. Draw the basic parts of neuron and label it.
4. What are the differences between the right and left hemispheres of the brain?
5. List the components of saliva and their functions.
6. Narrate the functions of kidney.
7. Name three hormones that play a role in erythropoiesis.
8. Define pulmonary compliance.
9. Write about the location and structure of the thymus gland.
10. Compare the main structures comprising the external genitalia.

PART B — (5 × 16 = 80 marks)

11. (a) Describe the various types of muscle tissue and their functions with neat diagrams.

Or

- (b) Compare the processes of facilitated diffusion, active transport and secondary active transport.

12. (a) Explain the following (i) Mechanism by which action potentials are generated (ii) Why conduction of the action potential is unidirectional.

Or

- (b) With a neat diagram explain the anatomy of brain and list out the functions of cerebrum.
13. (a) Identify the organs associated with the kidneys. Outline the gross structure of the kidneys describe the structure of a nephron.

Or

- (b) Describe the absorptive mechanisms for salt, water, carbohydrate, protein, and fat.
14. (a) Explain the structure of the heart and discuss in detail about the blood circulation in heart.

Or

- (b) Define functional residual capacity, inspiratory capacity, totalling capacity and vital capacity.
15. (a) Describe in detail about the female reproductive system with diagram.

Or

- (b) Elaborately explain the anatomy and secretions of anterior pituitary gland and its functions.
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Question Paper Code : 77295

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

Second Semester

Pharmaceutical Technology

PY 6201 — FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Enumerate different blood groups.
2. Define haemopoiesis. Enumerate the different stages of haemopoiesis.
3. Draw a neat labeled diagram of neuron and mention its functions.
4. List the common errors of refraction.
5. Write a note on the functions of liver.
6. What is Micturition?
7. Draw a normal ECG and mark the various events.
8. What is total lung capacity?
9. What is pancreas? Enumerate its functions.
10. Define ovulation.

PART B — (5 × 16 = 80 marks)

11. (a) Draw a neat labeled sketch of human cell. Describe various components of a cell and their functions.

Or

- (b) Discuss various types of transport mechanisms across the cell membrane with a neat labeled diagram.

12. (a) Define and classify the joints. Discuss various types of movements of joints and associated diseases.

Or

- (b) Describe the anatomy and functions of parasympathetic and sympathetic nervous systems.
13. (a) Draw a neat labeled sketch of nephron and explain various parts of nephron and its functions.

Or

- (b) Explain in detail the anatomy and functions of accessory glands of the gastro-intestinal tract.
14. (a) Discuss the cardiac cycle in detail using a neat labeled diagram.

Or

- (b) Draw a neat labeled sketch of respiratory system. Discuss the anatomy of respiratory organs and their functions.
15. (a) Draw a neat labeled sketch of adrenal gland. Explain various functions and disorders of adrenal hormone.

Or

- (b) Discuss the various events of fertilization process with neat labeled diagram.
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Question Paper Code : 80944

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Second Semester

Pharmaceutical Technology

PY 6201 — FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the major constituent of a cell membrane?
2. Give the function of peripheral proteins.
3. What are microtubules?
4. What are peroxisomes?
5. Give the factors that depolarize the membrane.
6. What are the different neurotransmitters released by enteric neurons?
7. What are the factors that determine the characteristics of the compliance of the lungs?
8. What is the surface tension in the alveoli?
9. What is Euthyroid?
10. What is the Wolff–Chaikoff effect?

PART B — (5 × 16 = 80 marks)

11. (a) Write short notes on the synthesis and formation of cellular structures in the Endoplasmic Reticulum and Golgi apparatus.

Or

- (b) Explain the process of diffusion with examples.

12. (a) Give the roles of Ions During the Action Potential and Initiation of the Action Potential.

Or

- (b) Write notes on Muscle Sensory Receptors – Muscle Spindles and Golgi Tendon Organs – and their roles in Muscle Control.
13. (a) Explain Neural Control of Gastrointestinal Function – Enteric Nervous System.

Or

- (b) What are the functional types of movements in the Gastrointestinal Tract?
14. (a) Write detailed notes on :
- (i) Thyroid hormone synthesis (6)
 - (ii) Secretion along with the chemistry (5)
 - (iii) Metabolism of TSH. (5)

Or

- (b) Give the effects of thyroid hormones on the cardiovascular system, Nervous System and on Skeletal Muscle.
15. (a) Give a detailed explanation on the consequences of insulin deficiency. (8)

Or

- (b) Give a detailed explanation on the physiologic effects of glucocorticoids. (8)
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