

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Theory Examination, December 2022

Course: Human Anatomy and Physiology

Program: B. Pharm

Course Code: BP101T

Instructions: Read the Question Paper Carefully.

Semester: I

Time 03 hrs.

Max. Marks: 75

SECTION A

S. No.	CO	Multiple Choice Questions (20X1) or Objective type Questions (10X2) or one line answer	Marks
Q1			20
1	CO1	Which of the stated relationships is correct? a. the heart is superior to the large intestine b. the shoulder is distal to the metacarpals c. the phalanges are proximal to the carpals d. the eye is medial to the nose	1
2	CO2	Which list below contains the four types of tissue? a. extracellular fluid, skeletal tissue, glandular tissue, connective tissue. b. extracellular fluid, muscle tissue, glandular tissue, cartilaginous tissue. c. neural tissue, skeletal tissue, epithelial tissue, cartilaginous tissue. d. neural tissue, muscle tissue, epithelial tissue, connective tissue.	1
3	CO3	Which of the following statements is "True" about cell signaling? a. In plants, the cell signaling occurs through phytohormones b. Cell signaling is used to study the context of human diseases c. Cell signaling is used to study the signaling between cells of an organism d. All of the above	1
4	CO4	Which form of transport through the plasma membrane requires the expenditure of energy by the cell? A. Facilitated diffusion B. Osmosis C. Active transport D. Diffusion	1
5	CO5	Which one of the following is NOT a type of sweat gland? a. Eccrine gland b. Merocrine gland c. Endocrine gland d. Apocrine gland	1
6	CO1	Define the term "Homeostasis".	1
7	CO2	Which period of the heart cycle is completely occupied by the ventricles contracting? A. atrial systole B. atrial diastole C. ventricular systole	1

		D. ventricular diastole	
8	CO3	What is the function of a spinal nerve? a. transmit sensory information b. transmit both sensory and motor information c. connect sensory and motor neurons d. transmit autonomic nervous system information	1
9	CO4	The light sensitive cell in the retina of the eye that responds to color called as..... a. macula b. macula lutea c. cone d. rod	1
10	CO5	Which of the following auditory structures are filled with fluid? a. the inner ear b. the middle ear c. the external meatus d. the Eustachian tube	1
11	CO1	What is the role of Ca ++ in muscle contraction? a. Ca causes an action potential to travel along the sarcolemma b. Ca binds to troponin changing its shape. c. Ca attaches to the binding site of myosin, energizing it. d. Ca engages with the binding site of actin causing the power stroke	1
12	CO2	The normal WBC count in adult male is	1
13	CO3	What is the outermost layer of the heart wall known as? a. epicardium b. pericardium c. parietal membrane d. endocardium	1
14	CO4	Which of the following sends sensory information to the brain? a. The afferent division of the peripheral nervous system. b. The efferent division of the peripheral nervous system. c. The somatic nervous system. d. The autonomic nervous system.	1
15	CO5	Which of the following is NOT a bone of the axial skeleton? a. deltoid b. ethmoid c. sphenoid d. hyoid	1
16	CO1	Blood cell formation (hemopoiesis) occurs in which of the following structures? a. red marrow b. yellow marrow c. medullary cavity d. epiphyseal plate	1
17	CO2	Nuclear DNA replicates in the _____ phase. a. G2 phase	1

		<ul style="list-style-type: none"> b. M phase c. S phase d. None of the above 	
18	CO3	Define “Blood Group”.	
19	CO4	Basophils, Eosinophils and Neutrophils are referred to as..... (a) Platelets (b) Astrocytoma’s (c) Granulocytes (d) Buffers	1
20	CO5	During the delivery of a baby the baby’s head is pushing against the cervix causing the cervix wall to stretch. This stretching causes nerve impulses to be sent to the hypothalamus which directs the posterior pituitary to release oxytocin in the blood. Oxytocin stimulates the uterus to contract which pushes the baby’s head deeper into the cervix, stretching it further. This situation is a description of which of the following? a. negative feedback b. positive feedback c. homeostasis d. an afferent pathway to an integrating centre	1

SECTION B

Long Answers (Answer two out of 3) 2X10

Q2			20
1	CO1	Explain the anatomy of the Heart with the help of diagram and discuss in detail about its conduction system.	(5+5)
2	CO5	Write the composition of Blood. Discuss in detail about the blood coagulation process.	(5+5)
3	CO2	Describe the eye anatomy with the help of diagram. Explain the mechanism of vision.	(5+5)

SECTION C

Short Answers (Answer 7 out of 9) 7X5

Q3			35
1	CO3	What is intracellular cell signalling? Explain signal transduction.	2+3
2	CO2	Discuss in detail with example about negative feedback mechanism of Homeostasis.	5
3	CO4	Explain the anatomy and functions of Plasma membrane.	5
4	CO3	Describe in detail about ABO Blood group system.	5
5	CO5	Write the functions of Sympathetic Nervous System (any five).	5
6	CO4	Discuss in detail about the mechanism of muscle contraction.	5

7	CO4	Discuss the anatomy of skin with the help of diagram.	5
8	CO3	Classify epithelial tissue. Write the function of each.	2+3
9	CO3	Describe a skeletal axial muscle system in detail.	5
		Total	75