

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2022**

**Course: Human Anatomy & Physiology**

**Program: MSC-N&D./MB.**

**Course Code: HSND7013**

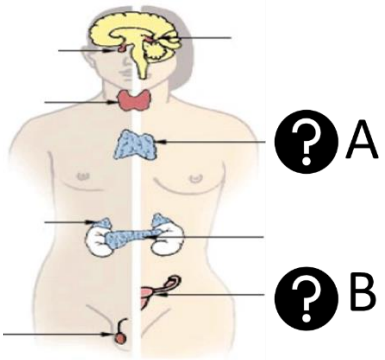
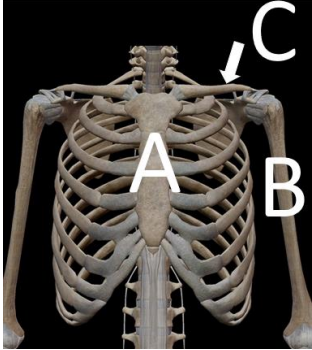
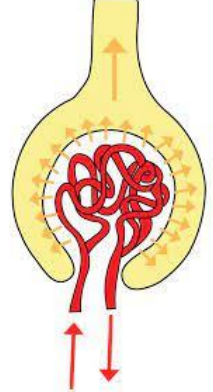
**Semester: 1<sup>st</sup>**

**Duration: 3 Hours**

**Max. Marks: 100**

**Instructions: Read all questions carefully.**

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q			
1	_____ are known as the suicidal bags of the cell.	1.5	CO 1
2	The integumentary system includes skin and its appendages (hairs, nails, sweat glands and sebaceous glands). (True/False)	1.5	CO 1
3	What does the abbreviation VLDL stands for.	1.5	CO 1
4	Calculate the patient's cardiac output when her heart rate and stroke volume is 100 bpm and 70 mL respectively.	1.5	CO 1
5	Define cell division.	1.5	CO 1
6	The articular cavity (or the joint cavity), which is filled with a fluid called _____.	1.5	CO 1
7	Draw the structure of heart.	1.5	CO 1
8	Name the formed elements found in blood.	1.5	CO 1
9	The study of structure and function of body organs is known as _____.	1.5	CO 1
10	Sketch the well-labelled diagram of kidney.	1.5	CO 1
11	The part of brain that ensures both sides of the brain can communicate and send signals to each other, is _____. 	1.5	CO 1
12	The cell which consist of cell body, a major branching fiber	1.5	CO 1

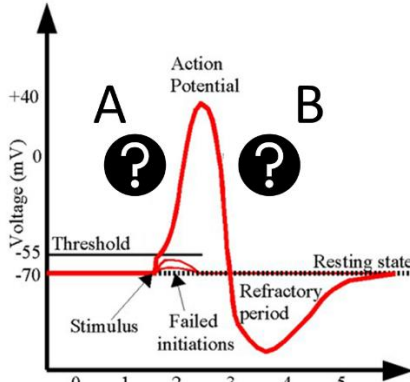
	(axon) and numerous smaller branching fibers (dendrites) is known as _____.		
13	Cellular respiration is the metabolic reactions that take place in the cells to convert chemical energy into adenosine triphosphate. (True/False)	1.5	CO 2
14	The condition of complete deprivation of oxygen in human body, is called _____.	1.5	CO 2
15	Identify the endocrine gland A and B. 	1.5	CO 2
16	Identify the bones. 	1.5	CO 2
17	Define hyperthyroidism.	1.5	CO 3
18	Identify the structure of nephron which is responsible for filtration of blood plasm. 	1.5	CO 3
19	Sketch a well labelled diagram of nerve cell.	1.5	CO 3
20	Write the different functions of liver.	1.5	CO 3

**Section B**  
(4Qx5M=20 Marks)

21	Give the role of kidney in maintaining the water and electrolyte balance.	5	CO 4
22	Compare and mention the differences between pulmonary and systemic circulation.	5	CO 4
23	Explain the structure and function of testosterone.	5	CO 5
24	Explain the process of blood coagulation.	5	CO 5

**Section C**  
(2Qx15M=30 Marks)

25	An 11-year-old female has presented with symptoms as weight loss, heat intolerance. She has also experienced a decline in grades at school. After clinical observation, she was prescribed methimazole. a) Identify the disorder (hyperthyroidism/hypothyroidism). What are the characteristics of it? (5 marks) b) Provide a full description of the synthesis of thyroid hormone. (10 marks)	15	CO 2
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26	a) During a nerve impulse transmission, the change in the membrane potential at state A and B are known as _____ and _____, respectively. (2.5 marks)  b) Demonstrate how signal transduction occurs during a nerve impulse. (12.5 MARKS)	15	CO 3
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**Section D**  
(2Qx10M=20 Marks)

27	Evaluate and give the role of various blood components.	10	CO 5
28	Examine and give note on anatomy and physiology of digestive system.	10	CO 4