

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2023

Set 2

Course: Human Anatomy & Physiology

Program: MSc. N&D.

Course Code: HSND7013

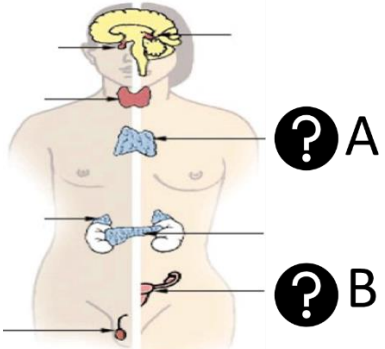
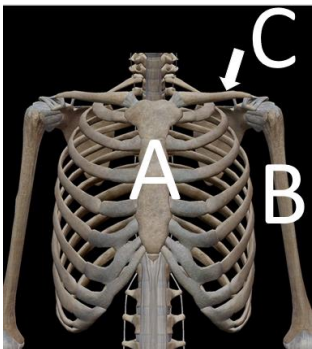
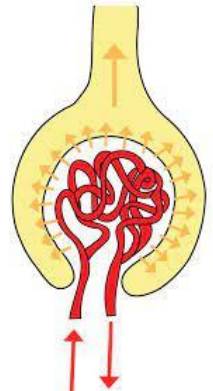
Semester: 1st

Duration: 3 Hours

Max. Marks: 100

Instructions: Read all questions carefully.

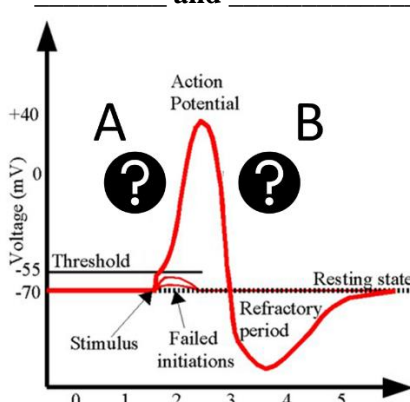
| S. No. | Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks) | Marks | COs |
|--------|---|-------|------|
| Q. No. | | | |
| 1 | _____ are known as the suicidal bags of the cell. | 1.5 | CO 3 |
| 2 | The integumentary system includes skin and its appendages (hairs, nails, sweat glands and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

| | | | |
|----|--|-----|------|
| 12 | The cell which consist of cell body, a major branching fiber (axon) and numerous smaller branching fibers (dendrites) is known as _____. | 1.5 | CO 2 |
| 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 5 |
| 14 | The condition of complete derivation of oxygen in human body, is called _____. | 1.5 | CO 2 |
| 15 | Identify the endocrine gland A and B.  | 1.5 | CO 5 |
| 16 | Identify the bones.  | 1.5 | CO 5 |
| 17 | Define hyperthyroidism. | 1.5 | CO 4 |
| 18 | Identify the structure of nephron which is responsible for filtration of blood plasm.  | 1.5 | CO 1 |
| 19 | Sketch a well labelled diagram of nerve cell. | 1.5 | CO 2 |
| 20 | Write the different functions of liver. | 1.5 | CO 1 |

Section B
(4Qx5M=20 Marks)

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| 1 | Give the role of kidney in maintaining the water and electrolyte balance. | 5 | CO 1 |
| 2 | Compare and mention the differences between pulmonary and systemic circulation. | 5 | CO 3 |
| 3 | Explain the structure and function of testosterone. | 5 | CO 5 |
| 4 | Provide an explanation on lung volume and lung capacity. | 5 | CO 2 |

Section C
(2Qx15M=30 Marks)

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|----------|--|-----------|----------------------------|
| | | | |
| 1 | <p>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.</p> <p>a) Identify the disorder (hyperthyroidism/hypothyroidism). What are the characteristics of it? (5 marks)</p> <p>b) Provide a full description of the synthesis of thyroid hormone. (10 marks)</p> | 15 | CO 4 CO 5 |
| 2 | <p>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)</p>  <p>b) Demonstrate how signal transduction occurs during a nerve impulse. (12.5 MARKS)</p> | 15 | CO 2 CO 5 |

Section D
(2Qx10M=20 Marks)

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|----------|---|-----------|-------------|
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| 1 | Evaluate and give the role of various blood components. | 10 | CO 3 |
| 2 | Examine and give note on anatomy and physiology of digestive system. | 10 | CO 1 |