

**2024**

**2nd Semester Examination**

**PHYSIOLOGY (Honours)**

**Paper : C 3-T**

**(Muscular Responses and Blood as Body Fluid)**

**(New Syllabus)**

**[Revised Syllabus, w.e.f. Session 2022-23]**

**[CBCS]**

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

**Group - A**

Answer any **five** of the following questions :    2×5=10

1. State two physiological conditions of altered ESR.
2. How do myelination and the diameter of nerve fibres affect the conduction velocity of nerve impulse?
3. Define motor unit and motor point. 1+1
4. What is Bart's Syndrome Thalassemia?
5. Write the relationship between chronaxie and rheobase.

P.T.O.

( 2 )

6. State the clinical application of EMG.
7. What is plasmaphoresis?
8. What is polycythemia? State its causes. 1+1

**Group - B**

Answer any **four** of the following questions : 5×4=20

9. Discuss the role of different factors that influence erythropoiesis. 5
10. Discuss the importance of red and white muscle fibers in fast and slow-twitch muscle activity. 2.5+2.5
11. Explain the processes of Wallerian degeneration and regeneration in peripheral nerve fibres. 2.5+2.5
12. Explain the ionic basis of the action potential, including resting membrane potential and its origin. 3+2
13. Draw and describe the EM Structure of Neuromuscular Junction. 2+3
14. Describe the immunological basis of ABO blood group system and Rh antigens. 3+2

**Group - C**

Answer any **one** of the following questions : 10×1=10

15. Describe the mechanism of blood coagulation. State coagulation disorders. Explain the role and mode of action of natural and artificial anticoagulants. 5+2+3

( 3 )

16. Explain the mechanism of synaptic transmission. Describe the mechanism of skeletal muscle contraction and relaxation with reference to the sarcotubular system and muscle proteins. 6+4
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P.T.O.

( 4 )

B.Sc./2nd Sem (H)/PHY/24(CBCS)/Old

2024

## 2nd Semester Examination

### PHYSIOLOGY (Honours)

Paper : C 3-T

(Physiology of Nerves and Muscle Cells)

(Old Syllabus)

[CBCS]

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

#### Group - A

Answer any **five** of the following questions : 2×5=10

1. Write the names of two neuromuscular blockers.
2. What is Myasthenia Gravis?
3. What is saltatory conduction?
4. Mention the role of neurotrophins in neurotransmitter release.
5. What is the function of neuroglia?
6. Why cardiac muscle does not become fatigue?

( 5 )

7. What do you mean by dark adaptation?
8. Differentiate between rheobase and chronaxie.

#### Group - B

Answer any **four** of the following questions : 5×4=20

9. Describe the mechanism of impulse transmission through the neuromuscular junction.
10. Discuss briefly the taste pathway with suitable diagram.
11. Write down the properties and functions of nerve fibre.  
3+2
12. Differentiate between isotonic and isometric contraction.
13. Write down the structure of one typical chemical synapse with labelled diagram.
14. Describe the excitation contraction coupling of muscle contraction.

#### Group - C

Answer any **one** of the following questions : 10×1=10

15. Explain the energy metabolism of skeletal muscle during muscle contraction. What are the differences between red and white muscle?  
6+4
16. Discuss in brief the photochemical changes in retina after exposure to light. Mention the functions of organ of corti.  
6+4