

QP CODE:

Reg.No.....

First Year B.Sc Neurotechnology Degree Examination 2024

Paper I- Neuroanatomy I

Time: 3Hours

Max Marks:100

Answer all Questions.

Draw Diagrams where ever necessary.

**Long Essay**

**(2x10=20)**

1. Draw superolateral surface of Brain and mark (4+6)
  - a. Prefrontal lobe
  - b. Motor area
  - c. Sensory area
  - d. Broca's area
  - e. Parietal lobe
  - f. Occipital lobe
2. Draw cross-section of spinal cord. Describe in brief the blood supply (4+6)

**Short Essay**

**(5x8=40)**

3. Write briefly on coverings of Brain. What are the functions
4. Describe cerebellum and its functions
5. How is Cerebrospinal Fluid formed? Describe its composition?
6. Enumerate different terminologies used to describe various anatomical positions with diagram
7. Describe a typical Neuron? Add a note on the functions of Neuron.

**Short Notes**

**(4x6= 24)**

8. What are the divisions of Nervous system? Write very briefly on each
9. Name the bones forming the Calvarium
10. What are glial cells? What are the functions?
11. Name and describe the parts of brainstem

**Answer Briefly**

**(2x3= 6)**

12. How does brain connect with spinal cord?
13. Name the facial bones?

**Fill in the blanks**

**(10x1= 10)**

14. The first cervical vertebra is called \_\_\_\_\_
15. Vertebral column ends at \_\_\_\_\_
16. Spinal cord ends in adults at \_\_\_\_\_
17. Upper limbs are joined with the trunk by means of \_\_\_\_\_
18. Vertebra prominens is the \_\_\_\_\_ vertebra
19. Bones of leg \_\_\_\_\_ and \_\_\_\_\_
20. Olecranon is part of \_\_\_\_\_
21. Spinal cord exits from cranial cavity through \_\_\_\_\_
22. Inion is \_\_\_\_\_
23. Glabella is located in \_\_\_\_\_

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Paper II- Neuroanatomy II

Time: 3Hours

Max Marks:100

Answer all Questions.

Draw Diagrams where ever necessary.

**Long Essay**

**(10x2=20)**

1. Describe Brachial plexus? What is Erb's palsy?
2. Describe visual pathway?

**Short Essay**

**(5x8=40)**

3. Describe Sciatic nerve? Add a note on Flail foot
4. Briefly describe Trigeminal nerve
5. How is carpal tunnel formed? Write briefly on median nerve in hand
6. Classify different types of nerve fibres with suitable examples
7. What do you mean by Lower Motor Neuron? How is it tested?

**Short Notes**

**(6x4=24)**

8. Draw a spinal root and mark the parts
9. Describe the microscopic structure of a skeletal muscle fibre
10. Describe in brief muscles of shoulder joint
11. Tracts of spinal cord?

**Answer Briefly**

**(3x2=6)**

12. What is a motor unit?
13. Pelvic girdle formation and its functions

**Fill in the blanks**

**(10x1=10)**

14. Deltoid is supplied by \_\_\_\_\_
15. Forearm bones are \_\_\_\_\_
16. Hypothenar eminence consists of \_\_\_\_\_
17. Palmar interossei is supplied by \_\_\_\_\_
18. Muscles constituting Hamstrings are \_\_\_\_\_
19. Bones of wrist are called as \_\_\_\_\_
20. Extensor digitorum brevis is supplied by \_\_\_\_\_
21. Saphenous nerve is a branch of \_\_\_\_\_
22. Sural nerve supplies \_\_\_\_\_
23. Quadriceps are called so because \_\_\_\_\_

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Paper III - Basic Neurophysiology and Neurotechnology Instrumentation

Time: 3Hours

Max Marks:100

Answer all Questions.

Draw Diagrams where ever necessary.

**Long Essay**

**(2x10=20)**

1. Who is an electrically sensitive patient? In what circumstances do electrical injury occur in Neurophysiology lab? What measures will you take to prevent them?  
(3+3+4)
2. Describe generation of EEG waves. Draw a diagrammatic representation of EEG machine. (5+5)

**Short Essay**

**(5x8= 40)**

3. Enumerate various systems of electrode placement in EEG recording. Describe in detail the one which is used commonly (2+6)
4. Describe the sleep stages
5. Classify reflexes. Describe stretch reflex in detail (2+6)
6. Name some body fluids. Describe the constituents, functions of blood (3+5)
7. Describe neuromuscular junction. Add a note on neuromuscular transmission (4+4)

**Short Notes**

**(4x6=24)**

8. Define receptors. Write on the different receptors in human body
9. What are the different types of nerve injury? Add a note on Wallerian degeneration
10. Describe a muscle fibre
11. What is Action potential

**Answer Briefly**

**(2x3=6)**

12. How is Extracellular fluid different from and intracellular fluid?
13. What are the differences between Motor nerve and Mixed nerve?

**Fill in the blanks**

**(10x1=10)**

14. End product of glycolysis is \_\_\_\_\_
15. Enzymes that is increased in serum after muscle injury is \_\_\_\_\_
16. Mineral that is essential for muscle contraction \_\_\_\_\_
17. The neurotransmitter released at neuromuscular junction is \_\_\_\_\_
18. Resting membrane potential is restored due to the action of \_\_\_\_\_
19. The important muscle proteins are \_\_\_\_\_
20. Time constant means \_\_\_\_\_
21. Overdamping and underdamping causes \_\_\_\_\_
22. Common mode rejection is \_\_\_\_\_
23. Ohm's law is applicable in \_\_\_\_\_

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