Neural Control and Coordination

Assertion Reason Questions

Given below are two statements labelled as Assertion (A) and Reason (R). Select the most appropriate answer from the options given below:

(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true and R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.

1. Assertion (A): Multipolar neurons have two or more axons and one dendrite.
Reason (R): Multipolar neurons are found usually in the cerebral cortex.

Ans. (d) A is false but R is true.
Explanation: Multipolar neurons have many dendrites and a single axon. They are found in the cerebral cortex.

2. Assertion (A): The PNS comprises all the nerves of the body associated with CNS.
Reason (R): PNS is the site of information processing and control.

Ans. (c) A is true but R is false.
Explanation: Nerves arising from the central nervous system (brain and spinal cord) constitute the peripheral neural system. The PNS comprises all the nerves of the body associated with CNS but the reason is not true as CNS is the site of information processing and control.

3. Assertion (A): Medulla contains centres which control respiration, cardiovascular reflexes and gastric secretions.
Reason (R): Medulla contains several neurosecretory cells which secrete hormones.

Ans. (c) A is true but R is false.
Explanation: Medulla oblongata extends from pons Varolii and is continuous with spinal cord. It contains centres that regulate respiration, breathing, swallowing, cardiovascular reflexes and gastric secretions. Reason is not true as it is hypothalamus which contains several neuro- secretory cells which secrete hormones.