CBT SCIENCE (AUGUST) 2024

CLASS – X

Q1 Which part of brain controls activities like walking in a straight line and riding a bicycle .

(a) Forebrain – Cerebrum

(b) Midbrain – Hypothalamus

(c) Hindbrain- Cerebellum

(c) Hindbrain – Medulla

Correct Answer : (C)

Feedback : Walking in straight line and riding a bicycle are voluntary actions and are controlled by cerebellum.

Q2 Person X suffers from a condition that the normal functioning of Pituitary gland. Which of the following is most likely a direct affect of person X's condition.

(a) Insufficiency of Iodine.

(b) Irregular heartbeat

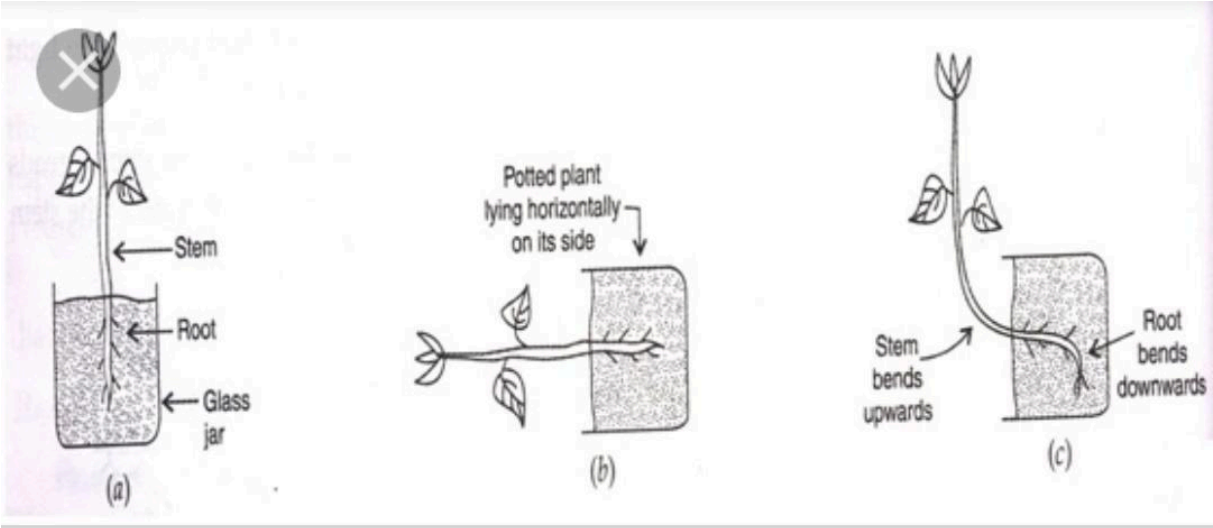
(c) Insufficient growth of the body

(d) Inability to regulate blood sugar

Correct Answer : (C)

Feedback : Pituitary gland is responsible for growth of person by controlling the release of growth hormone.

Q3 Observe the image carefully and answer the questions that follows.



Name the phenomenon exhibited by root and stem in Figure (c)

(a)Positive Phototropism and Negative Geotropism.

(b)Positive Geotropism and Positive Phototropism.

(c)Negative Geotropism and Negative Phototropism

(d)Positive Phototropism and Positive Geotropism.

Correct Answer: (B)

Feedback : Roots shows Positive Geotropism and stem shows Positive Phototropism.

Q4 Which plant hormone is responsible for bending of plant towards light.

(a)Gibberellin

(b)Cytokinin

(c)Auxin

(d)Abscisic Acid

Correct Answer: (c)

Feedback : The plant does NOT bend towards the light. It grows because the auxin causes the cells to elongate on the shaded side, so this side grows more. This unequal growth of the two sides, results in the growth of the stem towards the light. If lit from above, the plant will grow upwards.

Q5 A child is frightened by loud noise and shouts for help. In which order different types of neurons involved will act.

(a)Motor neuron--Relay neuron -Sensory neuron.

(b)Motor neuron-Sensory neuron-Relay neuron.

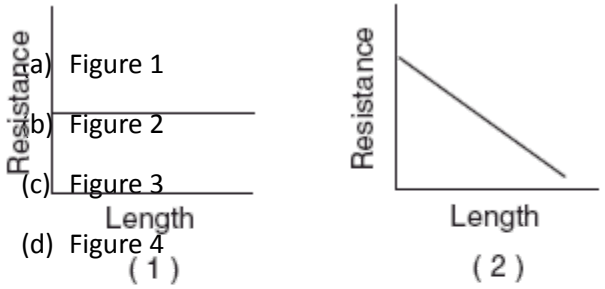
(c)Sensory neuronMotor neuronRelay neuron

(d)Sensory neuron Relay neuronMotor neuron

Correct Answer: (d)

Feedback : Reflex action is an immediate involuntary action of any organ or part of body in response to a particular stimulus. Path of reflex action is Sensory neuron Relay neuronMotor neuron

Q6 Ram wants to draw a graph to show how resistance of a wire changes with the length of the wire. How should his graph look like?



(a) Figure 1

(b) Figure 2

(c) Figure 3

(d) Figure 4

Correct Answer – (3)

Feedback : Resistance of a wire is directly propotional to length.

Q7 Assertion (A): Alloys are commonly used in electrical heating devices like electric iron and heater.

Reason : Resistivity of an alloy is generally higher than that of its constituent metals but the alloys have low melting point than their constituent metals.

(a) Both (A) and (R) are true but (R) is the correct explanation of (A)

(b) Both (A) and (R) are true but (R) is not the correct explanation of (A)

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true

Correct Answer : (c)

Feedback : Resistivity of an alloy is generally higher than that of its constituent metals but the alloys have high melting point than their constituent metals.

Q8 An electric refrigerator rated 400 W operates for 8h per day. The cost of energy to operate it for 30 days at Rs 3 per kWh is

(a) Rs 288

(b) Rs 320

(c) Rs 430

(d) Rs 190

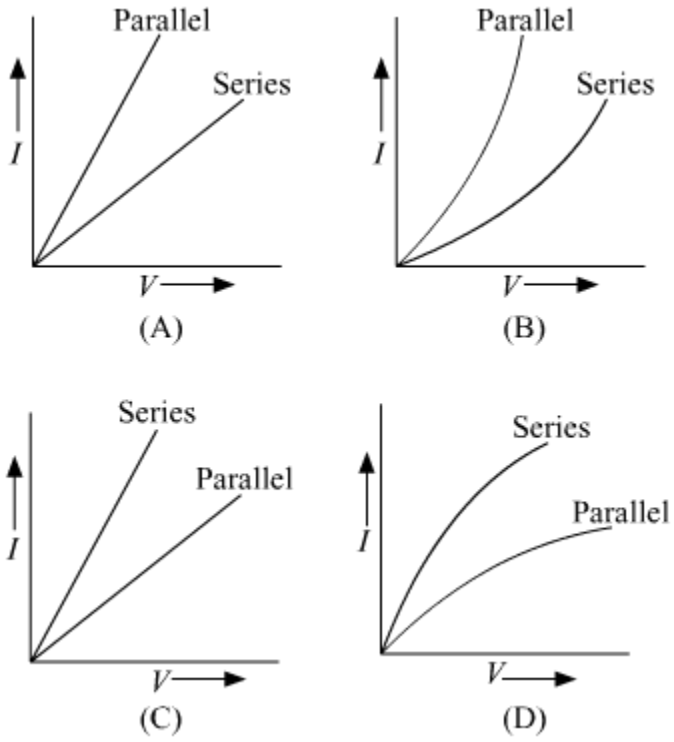
Correct Answer : (a)

Feedback: Electric Energy consumed = 400/1000 X 8 =3.2 kWh

In 30 days = 3.2 X30 = 96 kWh.

Cost = 96 X 3 = Rs 288

Q9 Four students performed experiments on series and parallel combination of two given resistors R_1 and R_2 which obey Ohm's law and plotted the following V-I graphs:



Which of the graph is correctly labeled in terms of 'series' and 'parallel'?
(**a**) graph A
(**b**) graph B
(**c**) graph C
(**d**) graph D

Correct Answer: (a)

According to Ohm's law, $V=IR$
From , we can say the graph between 'I' and 'V' will be a straight line, and the slope of the graph will be equal to R. Net resistance in series combination is more than the net resistance in parallel combination, hence the slope will be less for series combination and more for the

parallel combination.
Hence, the correct answer is option (a)

Q10 Two bulbs of 100 W and 40 W are connected in series. The current through the 100 W bulb is 1A. The current through the 40 W bulb will be

(a)0.4A

(b)0.6A

(c)0.8A

(d)1A

Correct Answer: (d)

Feedback: As the resistances are connected in series , same current will pass through them.