PRINT

Qn No. 1 *Chapter Name:1.Sensation and responses*

Qn.
The brain has a fluid which is formed from blood and reabsorbed into the blood.

(a) Identify the fluid.

(b) What are the functions of that fluid?

Hint.
a) Cerebrospinal fluid

b) Provides nutrients and oxygen to brain tissues,
protects the brain from injuries
(Any two)

Marks :(2)

Hide Answer

Qn No. 2 *Chapter Name:1.Sensation and responses*

Qn.
The following are the indications of some diseases affecting the nervous system. Analyze the symptoms and tabulate in A and B columns by giving the name of the disease as heading.

- **Distruction of Ganglions.**
- **Distruction of neuron.**
- **Accumulation of an insoluble protein in the neural tissues.**
- **Decreased production of dopamine.**
- **Loss of body balance.**
- **Loss of memory.**

A.....	B.....
• • •	• • •

Hint.
.

A) Parkinsons Disease	B) Alzhimers Disease
Distruction of Ganglions.	Distruction of neuron.
Decreased production of dopamine.	Accumulation of an insoluble protein in the neural tissues.
Loss of body balance.	Loss of memory.

Marks :(4)

Hide Answer

Qn No. 3 *Chapter Name:1.Sensation and responses*

Qn.
Complete the table by placing the following statements suitably in the table given below

(i)Part of the Central nervous system

(ii)Part of the peripheral nervous system

(iii)Covered with meninges

(iv)All nerves from here are mixed nerves

(v)Cerebral ventricles are filled with CSF

(vi)Central canal is filled with CSF

(vii)Site of memory and imagination

Applicable to Brain only	Applicable to Spinal cord only	Applicable to both

Hint.

Applicable to brain only	Applicable to spinal cord only	Applicable to both
(v)	(iv)	(i)
(vii)	(vi)	(iii)

Marks :(3)

Hide Answer

Qn No. 4 ***Chapter Name:1.Sensation and responses***

Qn.Mention any three physiological activities retarded due to the action of Sympathetic system.

Hint.

- **Production of saliva**
- **Gastric activities**
- **Intestinal peristalsis**

Marks :(3)

Hide Answer

Qn No. 5 ***Chapter Name:1.Sensation and responses***

Qn.Mention any three physiological activities came in to normal state by the action of Parasympathetic system

Hint.

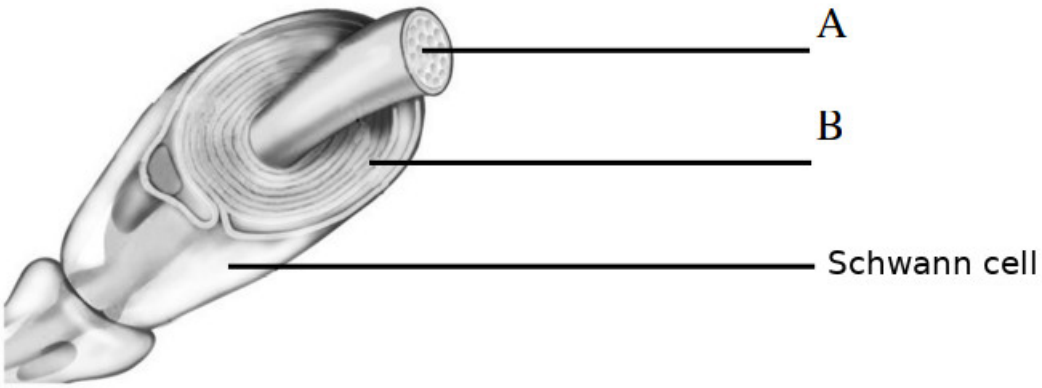
- **Heart beat**
- **Gastric activities**
- **Intestinal peristalsis**

Marks :(3)

Hide Answer

Qn No. 6 ***Chapter Name:1.Sensation and responses***

Qn.
Observe the illustration and answer the questions.



a) Identify A and B.

b) Write any two functions of B.

Hint.
a) A- axon , B - myelin sheath

b) provide nutrients and oxygen to the axon, accelerate impulses, act as an electric insulator and protect the axon from external shocks.

Marks :(2)

Hide Answer

Qn No. 7 ***Chapter Name:1.Sensation and responses***

Qn.
Copy the diagram and label the parts according to the indicators given below.

a) The part consist of cerebrospinal fluid.

b) The part where myelinated nerve cells are present in abundance.

c) The part conduct motor impulses from spinal cord to other parts of the body.

Hint.
a) Central canal

b) White matter

c) Motor nerve

Marks :(3)

Hide Answer

Qn No. 8 ***Chapter Name:1.Sensation and responses***

Qn.
Analyse the illustration and answer the questions.

Different parts of the body ------(A)----> Central nervous system -----(B)----> Different parts of the body.

a) Identify the nerves indicated A and B.

b) Name the nerve that performs the functions of both nerves A and B.

Hint.
a) A- Sensory nerve B- Motor nerve

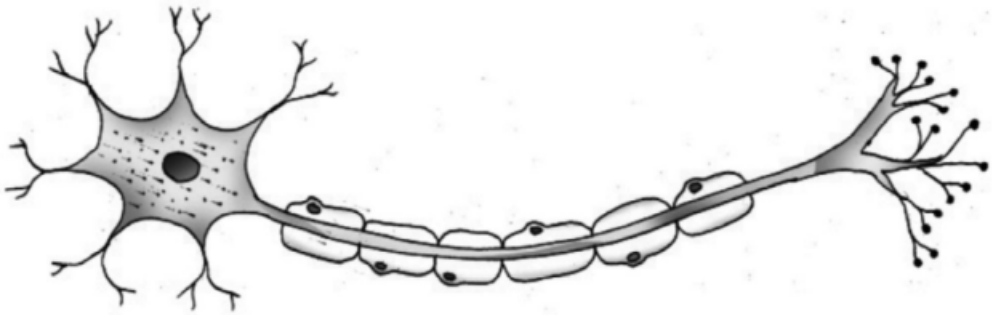
b) Mixed nerve

Marks :(2)

Hide Answer

Qn No. 9 ***Chapter Name:1.Sensation and responses***

Qn.
Copy the diagram and label the parts according to the indicators given below.

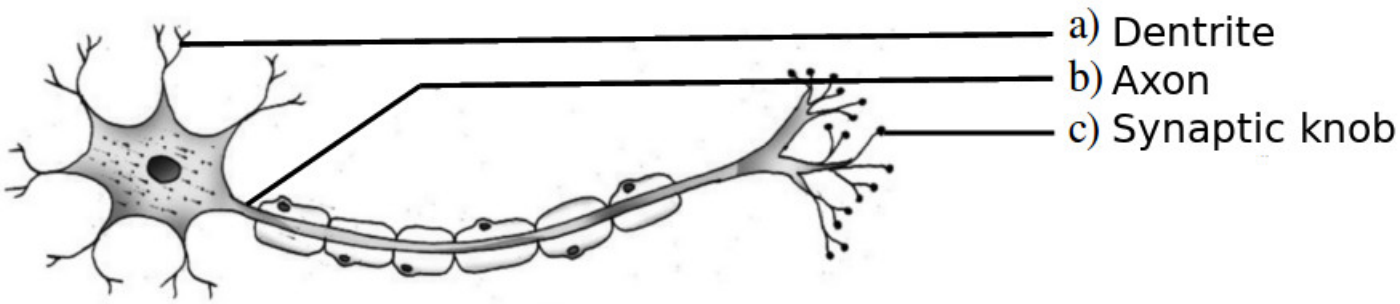


a) Part which receives impulses.

b) Part which carries impulses to the cell body.

c) Part which secretes neurotransmitters.

Hint.



Copy diagram 1 score

Marks :(4)

Hide Answer

Qn No. 10 ***Chapter Name:1.Sensation and responses***

Qn.
Analyse the given statements and answer the questions.

A- "The sympathetic system stimulates all physical activities".

B - " The sympathetic system stimulates some physical activity and reduces certain functions".
(a) Which statement do you agree with? Justify your answer.

Hint.
B - " The sympathetic system stimulates some physical activity and reduces certain functions".

Production of saliva decreases, Gastric activities slow down, Peristalsis in the intestine slows down.

Marks :(2)

Hide Answer

Qn No. 11 *Chapter Name:1.Sensation and responses*

Qn.
Some physical activity will change when you feared.

a) Identify the part of autonomous nervous system that regulates physical activity in this context.

b) What are the changes made by this system to the organs heart, liver, and salivary glands?

Hint.
a) Sympathetic system

b) Heart beat increases.

Glycogen is converted to glucose.

Production of saliva decreases.

Marks :(2)

Hide Answer

Qn No. 12 *Chapter Name:1.Sensation and responses*

Qn.
"Synapse has a major role in controlling the direction of impulses "

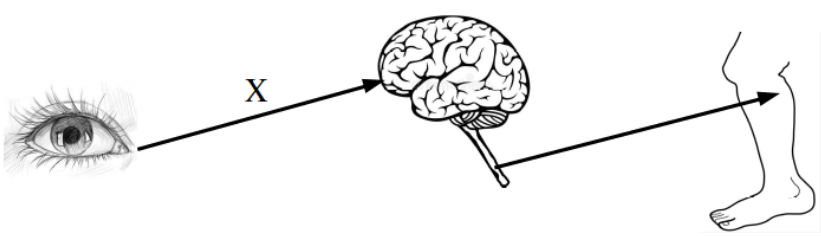
Justify the statement citing appropriate evidence.

Hint.Neurotransmitters secrete from the synaptic knob to the synaptic cleft. So impulse can travel only from a neuron's axonite to the dentrite of another neuron through synapse. For this reason, the Synapse has a major role in controlling the direction of impulse. ***Marks :(2)***

Hide Answer

Qn No. 13 *Chapter Name:1.Sensation and responses*

Qn.
Analyse the illustration and answer the questions.



a)Which nerve is labelled as " X " .

b)The nerve from the spinal cord, which reaches the muscle in the leg is mixed.Give reason .

a) " X " എന്ന് അടയാളപ്പെടുത്തിയിരിക്കുന്നത് ഏതുതരം നാഡിയാണ്?

b) സുഷുമ്നയിൽ നിന്ന് കാലിലെ പേശിയിലേയ്ക്ക് എത്തുന്ന നാഡി സമ്മിശ്രനാഡിയാണ്. കാരണമെന്ത്?

Hint.

a) X -sensory neuron

b)All spinal nerves are mixed nerves .This contains sensory nerve fibres and motor nerve fibres .

Marks :(2)

Hide Answer

Qn No. 14 ***Chapter Name:1.Sensation and responses***

Qn.

Copy the diagram and label the parts based on the indicators given below.

a) Part which coordinates muscular activities.

b) Rod shaped structure seen below the cerebrum.

c) Part which maintains homeostasis.

Hint.

Redraw 1 score

a- Cerebellum

b- Medulla oblongata

c- Hypothalamus

Marks :(4)

Hide Answer

Qn No. 15 ***Chapter Name:1.Sensation and responses***

Qn.

Some parts of the central nervous system is given in the box. Arrange them suitably in the box provided.

Central canal, cerebrum, thalamus, hypothalamus, meninges, medulla oblongata.

Statement	**Part**
1. Part which controls involuntary actions.	**1. .....**
2. part which contain cerebrospinal fluid.	**2. .....**
3. Part which act as relay station of impulses.	**3. .....**
4. Largest part of the brain.	**4. .....**
5.Part which maintains homeostasis.	**5. .....**
6.Part which protects brain.	**6. .....**

Hint.

1. Medulla oblongata.

2. Central canal.

3. Thalamus

4. Cerebrum

5. Hypothalamas

6. Meninges

Marks :(3)

Hide Answer

Qn No. 16 ***Chapter Name:1.Sensation and responses***

Qn.

The following are the indications of some diseases affecting the nervous system. Examine them and complete the table by giving the disease name as headings..

- **Continuous and irregular flow of electric charges in the brain.**
- **Loss of body balance.**
- **Destruction of Ganglions.**
- **Loss of memory.**
- **Epilepsy due to continuous muscular contraction.**
- **Accumulation of an insoluble protein in the neural tissues.**

A.....	B.....	C.....
• Loss of body balanance. •	• •	• Continuous and irregular flow of •

Hint.

A-parkinsons	B- Alsheimers	C- Epilepsy
• Loss of body balanance. • Destruction of gangleons.	• Loss of memmory • Accumulation of an insoluble protein in the neural tissues.	• Continuous and irregular flow of electric charges in the brain. • Epilepsy due to continuous muscular contraction. .

Marks :(4)

Hide Answer

Qn No. 17 ***Chapter Name:1.Sensation and responses***

Qn.

The main symptoms of a disease affecting the nervous system are given below. Analyze the symptoms and answer the questions.

- **Loss of body balance.**
- **Irregular movement of muscles.**
- **Profuse salivation.**

a) Identify the disease.

b) Write the causes of this disease.

Hint.

a)Parkinsons disease.

b)Distruction of specialised gangleons in the brain. Decrease in the production of the neurotransmitter, dopamine in the brain.

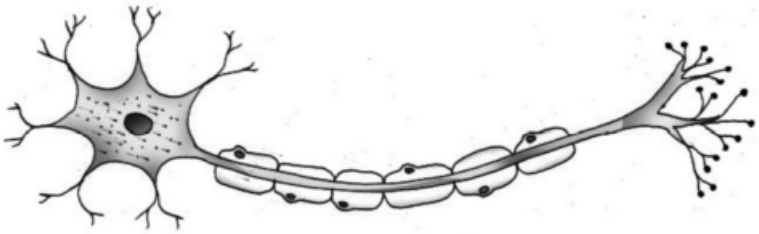
Marks :(2)

Hide Answer

Qn No. 18 ***Chapter Name:1.Sensation and responses***

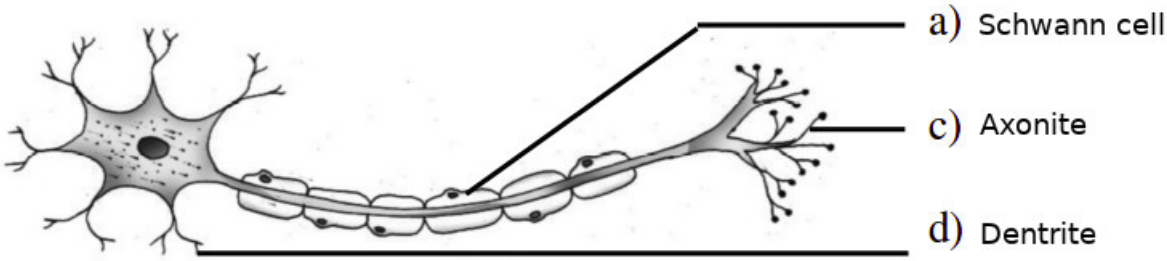
Qn.

Copy the diagram and select the parts of the neuron from the following. Write down the function that each of them performs.



a) Schwann cell b) Dorsal root c) Axonite d) Dentrite e) Central canal

Hint.



a) Schwann cells-schwann cells form myelin sheath in nerves .

b) Axonite - carries impulses from axon to synaptic Knob/synapse.

c) Dendrite -receives impulses from adjacent neuron.

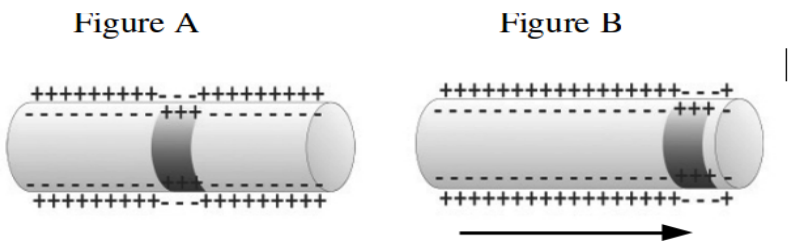
Marks :(3)

Hide Answer

Qn No. 19 ***Chapter Name:1.Sensation and responses***

Qn.

Formation of impulses in a neuron is illustrated below.



a) Which factor in diagram A causes charge difference?

b) What difference can you observe in diagram B, when compared to diagram A.? Write the reason.

Hint.
a) Stimulus

b) In diagram A, in the stimulated part the inner side side of the membrane became positively charged and the outer side became negatively charged.

In diagram B , the momentary charge difference stimulates its adjacent parts and similar changes occur there too. As this process proceeds messages are transmitted through axon.

Marks :(3)

Hide Answer

Qn No. 20 ***Chapter Name:1.Sensation and responses***

Qn.
“Impulses are formed due to the change in the distribution of ions on either side of the plasma membrane of a neuron”

a) What changes occur to the charges on either side of the plasma membrane during impulse formation? Which factor causes this.?

b) How does charge difference transmitts from one part of the neuron to the other?

Hint.
a) outer side of the plasma membrane becomes positively charged and inner part becomes negatively charged. The difference in the charge on either side of the plasma membrane is due to stimulus.

b) Stimulus changes the equilibrium of ions on either side of the plasma membrane . So at the stimulated part outer side of the membrane has negative charge and inner side has positive charge. This momentary charge difference stimulates its adjacent parts and similar changes occur there too. As this process proceeds messages are transmitted through axon.

Marks :(3)

Hide Answer

Qn No. 21 ***Chapter Name:1.Sensation and responses***

Qn.
Analyse the statements given tin the box , Give the name of the layers as heading and complete the table.

- **Protects neuron from pressure ,shock etc..**
- **Increases the speed of impulses.**
- **Acts as electric insulator. .**
- **Layer which protects spinal chord.**
- **Contains three membranous layers.**
- **Layer which covers and protects the brain**

.....	.....
• • •	• • •

Hint.

Meninges	Myelin sheath
-Layer which covers and protects the brain. -Layer which protects spinal chord. - Contains three membranous layers.	-Protects neuron from pressure ,shock etc.. -increases the speed of impulses. -Acts as electric insulator.

Marks :(2)

Hide Answer

Qn No. 22 *Chapter Name:1.Sensation and responses*

Qn.
Identify the odd one and write the common feature of others.

Touch, Sound, Smell, Thirst

Hint.Thirst - Others are external stimuli *Marks :(1)*

Hide Answer

Qn No. 23 *Chapter Name:1.Sensation and responses*

Qn.
Identify the word pair relation ship and fill the blanks.

Myelin sheath : Covers and protects axon.

..... : Covers and protects brain

Hint.Meninges *Marks :(1)*

Hide Answer

Qn No. 24 *Chapter Name:1.Sensation and responses*

Qn.
Find out the correct statements related to myelin sheath from those given below.

a) Dendrons of all neurons are covered with myelin sheath .

b) Myelin sheath in the nerves are made up of schwann cells and that of brain and spinal cord is formed of oligodendrocytes.

c)Myelin sheath has dark colour.

d)Myelin sheath reduces the speed of impulses through axon.

Hint.
b) Myelin sheath in the nerves are made up of schwann cells and that of brain and spinal cord is formed of oligodendrocytes.

Marks :(1)

Hide Answer

Qn No. 25 *Chapter Name:1.Sensation and responses*

Qn.
Select the correct statement from the following related to myelin sheath.

a) Myelin sheath covers the dendrons of all neurons .

b) Schwann cells repeatedly encircle the axon to form Myelin sheath.

c) Myelin sheath has shiny white colour.

d) Myelin sheath decreases the speed of impulses through the axon.

Hint.

b) Schwann cells repeatedly encircle the axon to form Myelin sheath.

c) Myelin sheath has shiny white colour.

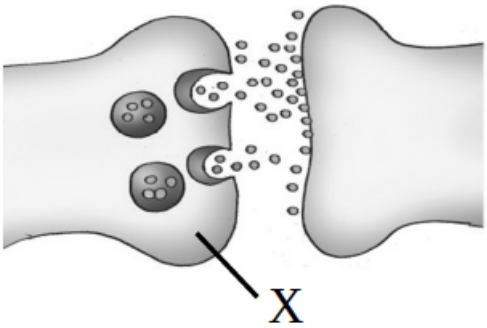
Marks :(1)

Hide Answer

Qn No. 26 *Chapter Name:1.Sensation and responses*

Qn.

Observe the following figure and answer the questions.



a) Name the part indicated by 'X'.

b) Write the name of the chemical released by this part and its function.

Hint.

a) X- Synaptic knob.

b) Acetyl choline/ Dopamine. This chemical which is released in the synaptic cleft stimulates the adjacent neuron and create electric impulses.

Marks :(2)

Hide Answer

Qn No. 27 *Chapter Name:1.Sensation and responses*

Qn.

A fluid fills the internal membranes of Memninges.

a) Identify the fluid?

b) Write any one function of this fluid.

Hint.

a) Cerebrospinal fluid.

b) Provides nutrients and oxygen to the tissues of the brain, regulate the pressure inside the brain and to protect the brain from injuries.

Marks :(2)

Hide Answer

Qn No. 28 *Chapter Name:1.Sensation and responses*

Qn.
Identify the parts of the nervous system with each of the following functions.

a) Plays a major role in the maintenance of homeostasis.

b) Acts as relay station of impulses

Hint.
a) Hypothalamus

b) Thalamus

Marks :(1)

Hide Answer

Qn No. 29 *Chapter Name:1.Sensation and responses*

Qn.
Analyse the following situations and complete the table.

i) Blinking of eye when light suddenly falls on the eye.

ii) Hand retract when accidentally touches a hot object.

Under the control of the spinal cord	Under the control of the Cerebrum

Hint.

Under the control of the Spinal cord	Under tyhe control of Cerebrum
Hand retract when accidentally touches a hot object	Blinking of eye when light suddenly falls on the eye.

Marks :(2)

Hide Answer

Qn No. 30 *Chapter Name:1.Sensation and responses*

Qn.
Analyse the following statements and write the reasons for each.

a) Cerebral cortex is called Grey matter.

b) The spinal nerves are mixed nerves.

Hint.
a) The cell body and the nerve parts without myelin sheath form the cerebral cortex. So cerebral cortex is called Grey matter.

b) The spinal nerves are mixed nerves because they contain the sensory nerve fibres carrying impulses to spinal cord and motor nerve fibres carrying impulses to different body parts.

Marks :(2)

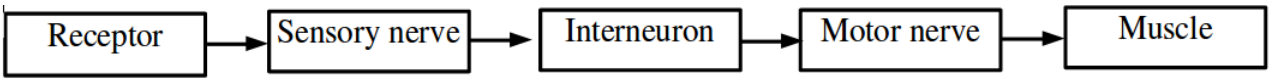
Hide Answer

Qn No. 31 *Chapter Name:1.Sensation and responses*

Qn.
Prepare a flow chart using the words given in the box related to reflex arc.

Motor neuron, receptor, muscle, interneuron, sensory nerve

Hint.



Marks :(2)

Hide Answer

Qn No. 32 *Chapter Name:1.Sensation and responses*

Qn.
Impulses transmit in the form of electrical charges. Find the evidence from the following that substantiate this statement.

a) The change in electrical charge in cell membrane becomes the impulse.

b) Impulses are the change in the difference in the distribution of ions seen in the cell membrane.

c) Ionic equilibrium forms the impulse.

Hint.
a and b

Marks :(1)

Hide Answer

Qn No. 33 *Chapter Name:1.Sensation and responses*

Qn.
Synapses can regulate the direction of impulses. Select the statement which substantiates this fact.

a) Neurotransmitters are released in the synaptic cleft from the synaptic knob.

b) Neurotransmitters are released from one neuron to the next neuron.

c) Neurotranmitters are released into a neuron from the synaptic knob.

Hint.
a) Neurotransmitters are released in the synaptic cleft from the synaptic knob.

Marks :(1)

Hide Answer

Chapter Name:1.Sensation and responses

Qn.
Find the correct statement related to Interneuron.

a) Conveys messages to muscles.

b) Conveys messages to spinal cord.

c) Rapid responses are produced in relation to sensory impulses.

d) Conveys impulses to receptors.

Hint.
c) സംവേദ ആവേഗങ്ങൾക്കനുസരിച്ച് വേഗത്തിലുള്ള പ്രതികരണനിർദ്ദേശങ്ങൾ ഉണ്ടാക്കുന്നു.

Marks :(1)

Hide Answer

Qn No. 35 ***Chapter Name:1.Sensation and responses***

Qn.
Analyse the statements A and B and identify the suitable explanation from the following.

Statement A- Alzheimer's disease is due to the destruction of neurons.

Statement B- Accumulation of an insoluble protein in the neural tissues of the brain of Alzheimer's patient occurs.

i- Statements A and B are true and statement B is the cause of statement A.

ii- Statements A and B are incorrect.

iii- Statement A is correct and B is incorrect.

iv- Statements A and B are true, but statement B is not the cause of statement A.

Hint.
i- Statements A and B are true and statement B is the cause of statement A.

Marks :(1)

Hide Answer

Qn No. 36 ***Chapter Name:1.Sensation and responses***

Qn.
The following table includes the parts of brain and their functions. Identify the correct pair from them.

Parts of brain	Function
1) Cerebrum	i) Relay of impulses
2) Thalamus	ii) Maintenance of body equilibrium
3) Cerebellum	iii) Heart beat
4) Medulla oblongata	iv) Maintenance of homeostasis
	v) Sensory experiences

a) 1-i, 2-iii, 3-ii, 4-iv

b) 1-v, 2-i, 3-iv, 4- iii

c) 1-v, 2-ii, 3-ii, 4-i

d) 1-v, 2-i, 3- ii, 4- iii

Hint.
d) 1-v, 2-i, 3- ii, 4- iii

Marks :(1)

Hide Answer

Qn No. 37 *Chapter Name:1.Sensation and responses*

Qn.
The spinal nerves are made up of definite Dorsal and Ventral roots. Then, the ventral root is made up of:

a) With sensory nerve fibres

b) With motor nerve fibres

c) With sensory and motor nerve fibres

d) None of these.

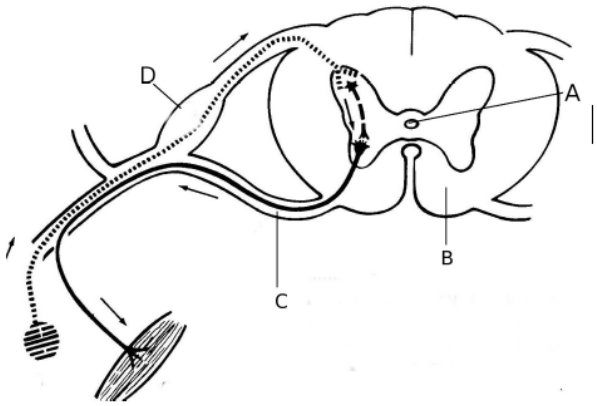
Hint.
b) With motor nerve fibres

Marks :(1)

Hide Answer

Qn No. 38 *Chapter Name:1.Sensation and responses*

Qn.
Select the correctly labelled one from the following.



i) A- White matter, B- Grey matter, C-Dorsal root, D- Ventral root

ii) A- Central canal, B- Grey matter, C-Ventral root, D- Dorsal root

iii) A- Central canal, B- White matter, C-Ventral root, D- Dorsal root

iv) A- Central canal, B- Grey matter, C-Dorsal root, D- Ventral root

Hint.
iii) A- Central canal, B- White matter, C-Ventral root, D- Dorsal root

Marks :(2)

Hide Answer

Qn No. 39 *Chapter Name:1.Sensation and responses*

Qn.
Which of the following indicates grey matter?

a) The part where the cell body and axon of nerves are present.

b) The part where the cell body and non myelinated neurons are present.

c) The part of the brain and the spinal cord, where myelinated neurons are present in abundance.

d) The part where large amount of axons are present.

Hint.
b) The part where the cell body and non myelinated neurons are present.

Marks :(1)

Hide Answer

Qn No. 40 *Chapter Name:1.Sensation and responses*

Qn.
Identify the correct flow chart related to reflex arc.

a) Receptor--> motor nerve --> Sensory nerve --> Muscle --> Interneuron

b) Receptor --> motor nerve --> Sensore nerve --> Interneuron --> Muscle

c) Receptor --> Sensory Nerve --> Interneuron --> Motor neuron --> Muscle

d) Receptorr -->Motor nerve --> Interneuron --> Sensory Nerve --> Muscle

Hint.
c) Receptor --> Sensory Nerve --> Interneuron --> Motor neuron --> Muscle

Marks :(1)

Hide Answer

Qn No. 41 *Chapter Name:1.Sensation and responses*

Qn.
Analyse the table and rearrange the parts according to the features.

Part	Feature
White matter	Sensory impulses reach the spinal cord
Central canal	Nerve parts without Myelin sheath are seen
Dorsal root	Nerve parts with Myelin sheath are seen
Grey matter	Carries cerebrospinal fluid

Hint.

Part	Function
Central Canal	Carries cerebrospinal fluid
Dorsal Root	Sensory impulses reach the spinal cord
White matter	Nerve parts with Myelin sheath are seen
Grey matter	Nerve parts without Myelin sheath are seen

Marks :(3)

Hide Answer

Chapter Name:1.Sensation and responses

Qn.
Identify the parts perform the following functions.

a) Coordinates the rapid and repeated during walking, running etc.

b) Coordinates muscular activities and maintains equilibrium of the body.

c) Secretes neurotransmitters to synaptic cleft.

d) Maintains homeostasis.

Hint.
a) spinal cord

b) cerebellum

c) synaptic knob

d) Hypothalamus

Marks :(3)

Hide Answer

Qn No. 43 ***Chapter Name:1.Sensation and responses***

Qn.
Which of the following statements are correct in connection with the transmission of impulse through synapse ?

a) Transmits from the cell body of one neurone to the cell body of adjacent neuron.

b) Transmits from the synaptic knob of one neurone to the dendrite of adjacent neuron.

c) Transmits from the synaptic knob of one neurone to the axonite of adjacent neurone.

d) Transmits from the dendrite of one neurone to the axonite of adjacent neurone.

Hint.
b) Transmits from the synaptic knob of one neuron to the dendrite of adjacent neuron.

Marks :(1)

Hide Answer

Qn No. 44 ***Chapter Name:1.Sensation and responses***

Qn.
Which of the following indicates white matter?

a) The part where the cell body and axon of nerves are present.

b) The part where the cell body and non myelinated neurons are present.

c) The p art of the brain and the spinal cord, where myelinated neurons are present in abundance.

d) The part where large amount of axons are present.

Hint.c) The p art of the brain and the spinal cord, where myelinated neurons are present in abundance. ***Marks :(1)***

Hide Answer