



# **BIOLOGY**

## **BOOKS - VGS BRILLIANT BIOLOGY (TELUGU ENGLISH)**

### **COORDINATION - THE LINKING SYSTEM**

**Textual Lesson Part**

1. What other functions do you think needed in coordination and balance?



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2. What triggers movement of the muscles?



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3. How do we respond so fast according to situation ?



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## Conceptual Understanding

1. Fill in the missing sections in the following flow chart.



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2. Do you think body's team work maintains functioning of our body ? Justify your answer with an example.



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3. Given an example of coordination in your body where both hormonal and nervous controls function together.



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4. How do nervous system and together to coordinate functions of your body ?



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5. Consider that you are passing by a garbage disposal area and you immediately cover your nose. Arrange the events below in a logical order by marking them from (i) to (v) to trace the events that happen in the nervous system from detection of foul smell (stimulus generation) to covering your nose (response).

(i) At the end of the axon, electrical impulse releases chemicals.

(ii) Stimulus received by the dendritic cells of a neuron sets off chemical reaction that creates an electrical impulse.

(iii) Electrical impulse transmitted through cell body and axon.

(iv) The chemicals cross the synapse and reach the next neuron. Similarly, the electrical impulse crosses several neurons.

(v) Finally, the impulse is delivered from neuron to the gland that helps in recognition

of the foul smell and muscle cells that help in covering the nose.



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6. What is a synapse ? How is it useful in transfer of information ?



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7. Distinguish between

Stimulus and Response



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**8. Distinguish between**

Afferent and Efferent nerves



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**9. Distingusih between**

Central nervous system and peripheral nervous system



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**10.** Distinguish between

Receptor and effector



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**11.** How does Phototropism occur in plants?



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**12.** How does plant respond to sunlight ?





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**13.** Give an example and explain how plants may immediately respond to a stimulus.



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**14.** How do you feel when you realize that plants respond to the stimuli of their surroundings ?



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**15.** What is Thigmonasty ? Explain with suitable example.



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**16.** Suggest an experiment to show how roots grow away from light in most plants.



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**17.** Give an example of a hormone and a neurotransmitter.



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**18.** How does a neuron differ from an ordinary cell in structure ? Write notes.



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**19.** How does an onion peel cell/cheek cell differ from a neuron in its structure ?



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**20.** Is the structure of neuron suitable for transmission of impulses ? Analyse.



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**21.** Man is the most intelligent animal. What could be the fact that helped us to reach such a conclusion ?



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**22.** The axon of nerve cell in hand is shorter than the axon of nerve cell in leg. Do you support this statement ? Why?



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**23.** Organs respond to the external stimulus by a fraction of second. How do you feel about such controlling mechanism of human body ?



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**24.** State whether the following actions are voluntary action, reflex action or conditioned reflex.

i) Blinking ii) Cleaning the table iii) Playing on the keyboard iv) Salivating when food is put in

the mouth v) We close our ears when we hear unbearable sound.



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## Asking Questions And Making Hypothesis

1. What will happen to the potted plant kept near window in the room ?



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2. A plant which grows near a window bends towards sunlight write the reason for it.



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3. What happens if all functions of the human body are controlled only by brain ?



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4. If you visit a doctor, what doubts you would like to clarify about pancreas ?



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## Experimentation And Field Investigation

1. Take a small potted plant. Cover base portion of the plant tightly and hang the part upside down. Observe the plant for a week. Based on your observation how can you

support phototropism ?



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2. (a) आप किस प्रकार किसी वास्तु के रंग का पता लगाते हैं? (b) हमारे शरीर का कौन सा भाग शरीर का संतुलन बनाये रखने में मदद करता है? (c) नेत्र किस प्रकार रेटिना पर पड़ने वाले प्रकाश का नियमन करते हैं?



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3. What procedure do you follow to understand the effect of plant growth hormones (in agar medium) in the terminal portion of the tip of stem (coleoptile) ?



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## Information Skills And Projects

1. Collect information on the actions controlled by spinal cord by using reference

books from your school library.



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2. Read the following sentences and compare with endocrine glands.

Pheromones are chemical substances secreted by organisms. These act as chemical signals secreted by exocrine glands. Pheromones are used as signals by the members of same species. Honeybee secretes pheromones that attract other bees to the location of food.



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3. Collect the information about cranial nerves, spinal nerves from internet or from your school library.



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## Communication Through Drawing Model Making

1. Draw a picture representing connection between dendrite - dendrite, axon-dendrite.

Why do they connect like that ?



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2. Draw a labelled diagram of brain.



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3. You are walking in the traffic. Suddenly you heard a loud sound. How does coordination take place in this situation among respected

organs ? Draw a block diagram to explain this situation.



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4. Make a model of neuron using suitable materials.



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5. Draw a labelled diagram of a neuron.



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6. Observe different actions performed by your classmate for a period of 45 minutes. Out of these actions which are controlled by voluntary and involuntary pathways?



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**Appreciation And Aesthetic Sense Values**

1. Its very interesting to watch a creeper entwining its tendril to the support. Is not it ?  
How do you express your feelings in this situation ?



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2. Plants also respond to external stimuli. How do you feel about this ?



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## Application To Daily Life Concern To Biodiversity

1. Hormones are released at a specific place, specific time for a specific function. Prepare a cartoon on hormones with a nice caption.



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## Activities

1. Holding a falling stick. 



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2. How far up was this point from the end suspended between your fingers ?



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3. How far up was this point from the end suspended between your fingers ?



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4. Why did this happen ?



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5. How fast do you think the process was ?



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6. What are the basic blocks of a communication system ?



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7. Observe the permanent slide of nerve cell or neuron under microscope and try to find out its parts. Compare with the following diagram.



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8. Observe the permanent slide of nerve cell or neuron under microscope and try to find out its parts. Compare with the following diagram.



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9. What is knee jerk reflex?



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**10.** What changes do you observe in the thigh muscle ?



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**11.** What do we call this type of response ?



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**12.** What do we call the action of kicking a football?





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**13.** How is the knee jerk action takes place ?



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**14.** Do you think most of the functions in our body go about in an involuntary manner?

Why? Why not?



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**15.** Touch the leaves of *Mimosa pudica* (athipathi, touch me not ) plant and observe the response leaves.

Are they folding ?



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**16.** In which direction the folding of the leaves take place?



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**17.** Give some examples of situations in plants responding to a certain stimulus.



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**18.** Take a glass jar and fill with soil. Show a bean seed near the wall of the jar. After 4 - 5 days you will notice seed germination. Keep the jar under the sun. Observe how root and shoot grows. Then tilt the glass jar and keep the plant horizontally. Observe the direction of

the root and shoot growth for more than a week

vi) What did they observe by that experiment?



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**19.** Which side of the shoot may have grown more and which side less to bring about this effect ?



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**20.** Do you find any difference in the shape of epidermal cells ?



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**21.** Who performed experiments on phototropism ?



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**22.** What did they do in their experiment?



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23. What did they observe by that experiment?



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24. What did Charles Darwin and his son Francis Darwin state on their experiment?



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**25.** What are the experiments of F.W. Went and how did he succeeded in separating 'influence' from the plant?



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**26.** How did Went came to know about auxin?



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27. What is the meaning of auxin in Greek?



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## Questions Given In The Lesson

1. What helps us to respond to such signals ?



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2. Why does the living body respond to such signals ?



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3. What did Galen conclude after his observations?



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4. Which organ of our body was the detector and which the effector to Activity -1 ?



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5. What do you think that the information carried on the afferent and efferent nerves ?



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6. Which root according to you get signals from afferent nerves ?



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7. To which organs of the body do the nerves go from the ganglions near the vertebral column ?



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**8.** What are the organs that receives nerves starting from the brain?



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**9.** Which are the organs whose activities are influenced by the sympathetic nervous system?



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**10.** Which are the organs whose activities are influenced by the parasympathetic system ?



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**11.** Have you ever observed the duration of anger ?



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**12.** What may happen if anger persists for a longer period ?



**Watch Video Solution**

**13.** Why do you think Galen drew such a conclusion ?



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**14.** What other effectors would act under these circumstances?



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**15.** What are association nerves?



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**16.** According to you what would be the function of the spinal cord ?



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**17.** Are all functions of our body under direct control of the brain and spinal cord ? What do you think So?



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**18.** What do you think the end of these nerves act at the muscular end?



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**19.** What do you understand about the functions of parasympathetic system ?



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**20.** What do you understand about the functions of sympathetic system ?



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21. Why does anger come down ?



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22. Why is anger short living factor ?



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23. What may happen if anger persists for a longer period ?



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24. Think of any action and try to make a sketch of reflex arc ?



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## Objective Assignment

1. The largest region of the brain is .....



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2. A point of contact between two neurons is  
.....



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3. .... phytohormone is responsible for cell elongation and differentiation of shoots and roots.



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4. Thyroxine is responsible for .....



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5. Gibberellins and auxins promote growth in plants while abscisic acid arrests the same.

Some situations are discussed here. State which hormones would be needed any why ?

a) A gardener wants large dehlia, he should use along with nutrients and other things ..... hormone.





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6. b) In a dwarf plant the branches have to be thickened one would use ..... Hormone.



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7. c) Seeds are to be stored a long time .....  
Hormone can help.



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8. d) Cutting the apex or tip of plants so that there are several lateral buds ..... Hormone can be used.



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9. e) The part of the brain that helps you in solving puzzles is .....



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10. A person has loss of control on emotions, which part of brain stops its function ?

A. Cerebrum

B. Diencephalon

C. Mid brain

D. Cerebellum

**Answer: B**



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11. Leaf movement in mimosa helps to

A. Reduce photosynthesis

B. Protect from grazers

C. Releasing phytohormones

D. Regulate its growth

**Answer: B**



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12. Diabetes is related to this gland.

A. Thyroid

B. Pancreas

C. Adrenal

D. Pituitary

**Answer: B**



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**Creative Questions For New Model Paper**

1. Name the labelled part 'X' in the above figure.



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2. To which system the above diagram is associated with ?



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3. Name the structure shown in the above figure.



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4. Name the structure shown in the above figure.



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5. The above figure represent.



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6. name the labelled part 'X' in the figure.



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7. Name the labelled part 'X' in the above picture.



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**8.** Name the movement, observed in the above figure.



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**9.** Name the tropic movement shown in the above picture.



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**10.** Name the tropic movement shown in the above figure.



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**11.** Identify the scientist with the help of this paragraph.

'He was a Greek physiologist. He made a notable observation on nerves. He concluded that nerves were of two kinds.'



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**12.** Identify the scientist.

' They recorded the survival of frogs whose brain has been destroyed the animal still produced muscular movements'.



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**13.** Identify the scientist.

' They worked on the structure of spinal cord and found that it has two roots, one is on the dorsal side and the second one is on the ventral side'.



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**14.** Identify the scientist.

' He was the professor of pathology at the university of Freiburg. In 1868, he studied the

structure of pancreas and found patches of special cell supplied with blood capillaries'.



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**15.** Name the scientists who are associated with the extraction of insulin from degenerated animal pancreas.



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**16.** Identify the scientist.

' He was a dutch plant physiologist. He conducted experiment on coleoptile tips of oat seedlings. He discovered 'auxins'.



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**17.** Identify the mis-matched pair.

- 1) Auxins - Apical dominance
- 2) Cytokinins - Ripening of Fruits
- 3) Abscisic acid - Closing of stomata





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**18.** Identify the mis-matched pair.

- 1) Somatotrophin-growth of bones
- 2) Leutinising hormone-ovulation in females
- 3) Follicle stimulating hormone-secretion of testosterone



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**19.** Identify the mis-matched pair.

- 1) Adrenalin-General growth of the body

2) Thyroxine - Control on emotions

3) Oestrogen-Control of menstrual cycle.



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**20.** Identify the mis-matched pair.

1) Ethylene-Closing of stomata

2) Gibberellins - Germination of seeds

3) Auxins - Cell elongation



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21. I am a phytohormone. I am helpful in reducing waterloss in plants. Who am I ?



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22. I am a phytohormone. I am helpful in producing seedless fruits (parthenocarpic fruits). Who am I ?



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**23.** I am a phytohormone. Farmers used me to soak the seeds before sowing. Who am I ?



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**24.** I am a part of brain. I am the site of mental abilities and memory. Who am I ?



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**25.** I am the part of the brain. I act as the centre for water balance, blood pressure, body temperature, sleep and hunger. Who am I ?



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**26.** I am the part of brain. My main function is to maintain posture, equilibrium and muscle tone.



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27. Observe the following classification and complete the blank.



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28. 

 [View Text Solution](#)

29. 





[View Text Solution](#)

30. 



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31. I am the part of central nervous system. I am the centre for reflex arcs. Who am I ?



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**32.** I am specialised cell for transmission of information. I have no cell division. Who am I ?



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**33.** Read the flow chart and complete the blank.



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**34.** Expand C.N.S.



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**35.** Expand P.N.S.



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**36.** Read the sentence, find the error and rewrite it.

Islets of langerthans are found in pancreas.

Insula means forest.



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**37.** Read the sentence, find the error and rewrite it.

Adrenalin prepares our body to fight with ohters only.



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**38.** Read the sentence, find the error and rewrite it.

Pituitary gland is called 'master gland' of our body because it secretes large quantity of hormone.



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**39.** Complete the blanks.

Cerebrum is located in .....(1) and acts as site of .....(2).





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**40.** Complete the blanks.

Ovary is located .....(1) and

secretes a hormone called.....(2).



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**41.** Complete the blanks.

When you touch the leaves of ..... (1) plant,

they fold. It is an example for .....(2)



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**42.** Complete the blanks.

.....(1) are present in scrotal sac and they secrete a hormone called .....(2)



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**43.** Complete the blanks.

.....(1) and spinal cord are the parts of .....(2) nervous system.



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**44.** Complete the blanks.

.....(1) experiment on oat coleoptiles and discovered .....(2)



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**45.** .....(1) system helps in bring about activities of internal organs .....(2) also coordinates in the above function.



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**46. Theyroid : Thyroxine, Ovary : ?**



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**47. Adrenal gland : Adrenalin, Testes : ?**



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**48. Light : Phototropism, Water : ?**



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**49.** Gravity : Geotropism, Touch : ?



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**50.** I am a phytohormone. I promote cell division, and sprouting of lateral buds. Who am I ?



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**51.** I am a phytohormone. I am in gaseous state. I am helpful in ripening of fruit. Who am I?



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**52.** I am the first discovered phytohormone. I promote apical dominance. Who am I?



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**53.** I am a human hormone. I am secreted from a gland near to neck. I influence general growth rate and metabolic activity in our body.

Who am I ?



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**54.** I am a part of the brain. I am located below the cerebrum and above medulla oblongate. I coordinate voluntary movements initiated by cerebrum. Who am I ?





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**55.** I am a part of brain. I am triangular shaped. I extend from pons to spinal cord. I control vasomotor activities of our body. Who am I ?



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**56.** Osteocytes : bone , glial cells : ?



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**57. Spinal cord : Stephen Hales, Islets in Pancreas : ?**



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**58. Master gland : Pituitary, 3F hormone : ?**



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**59. Geotropism : Roots, Thigmomastix : ?**



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**60.** What type of response is shown by the plant in the picture due to contact or touch ?



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**61.** Write the correct statement.

A) Cerebrum is the centre for muscular activities

B) Diencephalon controls thinking, memory and reasoning



C) Cerebellum maintains posture, equilibrium and muscle tone.

D) Midbrain coordinates reflexes like swallowing, coughing , sneezing and vomiting.



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62. 



**View Text Solution**

63. 



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**64.** Identify the mismatched pair.

- 1) Cerebrum- Centre for Cardiac and Vascular activities
- 2) Diencephalon - Reflex centre for muscular activities
- 3) Cerebellum - Maintains posture



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**65.** Identify the mismatched pair.

- 1) Forebrain - Cerebrum
- 2) Mid brain- Optic lobes
- 3) Hind brain- Diencephalon



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**66.** Identify the mismatched pair.

- 1) Roots- Positively geotropic
- 2) Stem- Negatively geotropic
- 3) Sunflower- Thigmonasty





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67. 



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## Preparation Questions For The Examination Purpose

1. What is the structural and functional unit of nervous system ?



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2. Who transmits nerve impulse across the synapse ?



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3. What are the small projections on the neuron ?



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4. What are the long projections that extends to different parts of the body in a neuron ?



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5. Name the specialized insulatory sheath of neuron.



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6. Name the irregular intervals of myelin sheath of neuron.



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7. What is the function of schwann cells in a neuron ?



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**8.** How many neurons are present in our nervous system approximately ?



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**9.** What is the functional region of contact between two neurons where information from one region is relayed to another region ?



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**10.** How the information is relayed in the nervous system ?



**Watch Video Solution**

**11.** What is the largest part of human brain ?



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**12.** Name the hormone responsible for the secondary sexual characters in female.



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**13.** What will happen to the potted plant kept near window in the room ?



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**14.** How do the leaf movements in Mimosa help to ?



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**15.** In *Mimosa pudica*, thigmotropism helps in protection. What is the use of tendrils in bittergourd ?



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**16.** Which part of the nervous system play an important role in reflex arc ?



**Watch Video Solution**

**17.** Name the phytohormone that promotes cell division.



**Watch Video Solution**

**18.** Name the gland that produces Insulin.



**Watch Video Solution**

**19.** Which part of the brain helps to maintain posture and equilibrium ?



**Watch Video Solution**

**20.** Where do we find glial cells in brain ?



**Watch Video Solution**

**21.** What is the total number pairs of peripheral nerves in man ?



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**22.** What is the other name for afferent nerves ?



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**23.** Name the master gland of the body.



**Watch Video Solution**

**24.** What is known as 3F hormone ?



**Watch Video Solution**

**25.** Name the endocrine gland which is very near to trachea ?



**Watch Video Solution**

**26.** Name the endocrine gland which is present on the kidneys.



**Watch Video Solution**

**27.** Where do you observe islets of Langerhans ?



**Watch Video Solution**

**28.** Name the endocrine gland that is present in the head.



**Watch Video Solution**



**29.** Raju was severely injured in a road accident. He survived from that but he lost his memory. Which part of the brain might have been damaged ?



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**30.** Which part of the brain acts as the reflex centre for muscular activities ?



**Watch Video Solution**

**31.** Which part of the brain acts as the centre for the cardiac, respiratory and vasomotor activities?



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**32.** Ravi can't walk properly after an accident. He is unable to balance his body and walk on a straight line. Which part of his brain might have damaged ?



**Watch Video Solution**

**33.** Who conducted experiments on frog to know the significance of spinal cord ?



**Watch Video Solution**

**34.** Who discovered Islets of Langerhans in pancreas ?



**Watch Video Solution**

**35.** Name the scientists who are associated with the extraction of insulin from degenerated animal pancreas.



**Watch Video Solution**

**36.** Name the disease that occurs due to the low production of Insulin in our body.



**Watch Video Solution**

**37.** In what way the hormone somatotrophin influence our body ?



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**38.** Which hormone initiates the secretion of testosterone in males and progesterone in females ?



**Watch Video Solution**

**39.** What is the function of thyroxine in our body ?



**Watch Video Solution**

**40.** What is essential for the proper functioning of thyroid gland ?



**Watch Video Solution**

**41.** Which hormone controls the 28 days menstrual cycle in females ?



**Watch Video Solution**

**42.** Which hormone is responsible for the set in of secondary sexual characters in males ?



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**43.** Which hormone is responsible for the increase in heart beat rate, rise in blood sugar levels and dialation of the coronary artery and dialation of the pupil of the eye ?



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**44.** Who conducted the experiment on coleoptile tips of oat seedlings ?



**Watch Video Solution**



**45.** Who discovered the auxins ?



**Watch Video Solution**

**46.** Name the phytohormone that is responsible for apical dominance.



**Watch Video Solution**

**47.** Which hormone is responsible for cell elongation and differentiation of shoots and

leaves ?



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**48.** I am a phytohormone. I promote cell division, and sprouting of lateral buds. Who am I ?



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**49.** Name the phytohormone which initiates stem elongation and germination of seeds ?



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**50.** Name the plant hormone which initiates the breaking of seed and bud dormancy.



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**51.** Name the plant hormone which Promotes closing of stomata, dormancy of seeds and aging of leaves.



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**52.** I am a phytohormone. I am in gaseous state. I am helpful in ripening of fruit. Who am I?



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**53.** Name the phytohormone that promotes ripening of fruits ?



**Watch Video Solution**

**54.** Name the part of the plant which is negatively phototropic and positively geotropic.



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**55.** With what name growing of plant tendrils towards support and wind around is ?



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**56.** What is the meaning of 'Insulin' in Latin ?



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**57.** What serves as a shock absorbing medium and protect the brain against shocks and jerks ?



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**58.** A gardener wants large dehlia. Which plant hormone should he use along with nutrients?



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**59.** Abhijith wants to grow seedless grapes in his garden. Which hormone is helpful for him to fulfill his desire ?



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**60.** Which hormone is helpful to store seeds for a longes time ?



**Watch Video Solution**

**61.** In a dwarf plant, a farmer wants the branches have to be thickened. What hormone do you suggest farmer ?



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**62.** Brain is protected by having protective membranes. Name them.



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**63.** Give example for reflex arc.





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**64.** Name the bony box in which brain is protected.



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**65.** Name the nervous system formed by the chain of ganglia on either side of vertebral column.



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**66.** Give two examples of voluntary actions.



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**67.** What are the function of afferent neurons  
?



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**68.** A part of the hind brain makes possible activities like walking, skating, riding a bicycle and picking up a pencil. Name this part



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**69.** Name the plant hormone which inhibits growth and causes wilting of leaves.



**Watch Video Solution**

70. Name the part of neuron where information is acquired.



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## 1 Mark Questions

1. Write two points about insulin from the information you collected from internet.



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2. Write two sentences about insulin hormone using the data collected from your school library.



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3. "Plants respond to stimuli". During a project work on it, from which plants do you collect information and record it ?



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4. Write the name of the nerve given in the following diagram and write its function.



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5. Write the functions of Spinal cord from the information collected from your school library and from internet.



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6. You have performed the activity of Seed Germination in a glass jar in your school lab. You might have observed the growth of shoot and root. What information did you record regarding the shoot growth after a week if the glass jar is tilted and plant kept horizontally.



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7. Identify the given part in the diagram and write its use.



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8. Which part of the brain maintains posture and equilibrium of the body?



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9. You may eat grapes with no seeds. How are they formed ? Write some other fruits names.



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**10.** How many types of nerves are there ? What are they ?



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**11.** What are Afferent neurons?



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**12.** What are Efferent neurons?



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**13. What are association nerves?**



**Watch Video Solution**

**14. What are reflexes ?**



**Watch Video Solution**

**15. What is a Reflex arc ?**



**Watch Video Solution**

**16. What are unconditioned reflexes?**



**Watch Video Solution**

**17. What are conditioned reflexes ?**



**Watch Video Solution**

**18.** What are components of central nervous system ?



**Watch Video Solution**

**19.** What are the divisions of brain ?



**Watch Video Solution**

**20.** What is enteric nervous system ?



**Watch Video Solution**

21. What is sympathetic nervous system ?



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22. What is parasympathetic nervous system ?



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23. Do plants also have control system ?



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**24.** What are voluntary actions ? Give examples.



**Watch Video Solution**

**25.** What are involuntary actions ? Give examples.



**Watch Video Solution**

**26.** How do reflexes take place in our body ?



**Watch Video Solution**

**27.** How many types of actions are controlled by nervous system in our body ?



**Watch Video Solution**

**28.** How many types of reflexes are present ?



**Watch Video Solution**

**29.** What is the reaction of the body when we step on a sharp edged object ?



**Watch Video Solution**

**30.** Why is a system of control and coordination essential in living organisms ?



**Watch Video Solution**



**31.** What will happen when plant is exposed to unidirectional light ?



**Watch Video Solution**

**32.** Taking the example of heart beat, justify the antagonistic (opposite) action of the sympathetic and parasympathetic nerves.



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**33.** Why do leaves drop off seasonally?



**Watch Video Solution**

**34.** At what speed does nerve transmission occur?



**Watch Video Solution**

**35.** What is vasomotor?



**Watch Video Solution**

**36.** What are dorsal and ventral root ganglion?



**Watch Video Solution**

**37.** What is the function of dorsal root ganglion ?



**Watch Video Solution**

**38.** What is the function of ventral root ganglion?



**Watch Video Solution**

**39.** Who discovered the auxins ?



**Watch Video Solution**

**2 Mark Questions**

1. What questions will you ask a doctor to know about endocrine glands ?



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2. What is the significance of the adreanal gland in the human body ?



**Watch Video Solution**

3. How do you feel when you realize that plants respond to the stimuli of their surroundings ?



**Watch Video Solution**

4. Write the difference between hormone and enzyme.



**Watch Video Solution**

5. What will happen if a plant is placed near the window of your classroom ? What is this process called as ?



**Watch Video Solution**

6. How do you appreciate the role of Spinal cord in reflex actions?



**Watch Video Solution**

7. Label a, b, c, d in the diagram given below and write their functions.



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8. Name the hormone which influences growth rate in humans.



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9. Ram met with an accident. After that he lost the capacity to walk in straight manner and cannot smell anything. Which part of the brain got damaged in the above cases ?



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10. Explain two tropic movements with suitable examples.



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**11.** Name the hormone responsible for the development of secondary sexual characters.



**Watch Video Solution**

**12.** Give some examples of situations in plants responding to a certain stimulus.



**Watch Video Solution**

**13.** Plants shows tropic movements in different situations. Give examples.



**Watch Video Solution**

**14.** Divide the following into groups. Walking. Blinking of eye lids, heart beat, laughing. Digestion of food and reading. How do you divide them into groups ?



**Watch Video Solution**

**15.** How is brain in the human beings protected from injuries ?



**Watch Video Solution**

**16.** What are the differences between unconditioned and conditioned reflexes ?



**Watch Video Solution**

**17.** Write the components of reflex arc and their functions.



**Watch Video Solution**

**18.** What are plant growth substances ? Give examples.



**Watch Video Solution**

**19.** What are the functions of cytokinins ?



**Watch Video Solution**

**20.** What is ABA ? Explain its function in the plant.



**Watch Video Solution**

**21.** What is ethylene ? Explain its action.



**Watch Video Solution**

**22.** How do living organisms respond to the changes in the environment ?



**Watch Video Solution**

**23.** Why are some patients of diabetes treated by giving injections of insulin ?



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24. On touching a hot plate you suddenly withdraw your hand. Which category of neurons become active first and which are next ?



**Watch Video Solution**

25. Give a reason to explain why adrenaline helps in dealing emergency situations.



**Watch Video Solution**



**26.** What is the difference between a reflex action and walking ?



**Watch Video Solution**

**27.** Can you imagine how is it happening?  
Would you think it is responding to a stimulus  
?



**Watch Video Solution**

**28.** What will happen if intake of iodine in our diet is low ?



**Watch Video Solution**

**29.** Why is the use of iodised salt advised ?



**Watch Video Solution**

**30.** How will you appreciate the co-ordination among different organs of your body?



[Watch Video Solution](#)

**31.** How does our body maintain blood sugar level ?



[Watch Video Solution](#)

**32.** Many youngsters in our state are dying with head injury i.e. damage to brain when they meet with bike accidents. Write slogans to motivate people to wear helmet.





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**33.** What will happen if thyroid is removed ?



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## 4 Mark Questions

**1.** Write in a tabular form the different parts of human brain and their functions.



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2. Tabulate the different parts of the brain and their functions.



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3. Read the following table and answer the questions given below.



Write the importance of glands and hormones.



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4. Which hormone is responsible for growth of bone ?



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5. What happens if testosterone is not secreted ?



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6. Where does the gland that secretes thyroxine is located ?



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7. Which glands are common in male and female ?



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8. Observe the following information and answer the following questions.



What do we call the hormones that are present in plants ?

 [View Text Solution](#)

9. Name the hormones which are helpful in the growth of the plants.

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**10.** Farmers keep carbide powder in between raw mangoes. What might be the reason ?  
What will be the end result after 3 to 4 days ?



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**11.** Plants also respond like animals. Do you agree with this statement ? Support your answer.



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12. 

This diagram belongs to which system of the body ?



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13. Name the part A and B.



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**14.** The part 'C' is endocrinal gland. This is called master gland. What is the name of this gland ?



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**15.** Which part is this diagram is useful to solve problems and puzzles ?



**Watch Video Solution**

**16.** What is second brain ?



**Watch Video Solution**

**17.** What is adsorption ? Explain different types of adsorptions with suitable examples.



**Watch Video Solution**

**18.** Analyse the following information and answer the questions.



Write two functions of Sympathetic Nervous System.

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**19.** Name two organs that are influenced by Parasympathetic Nervous System.

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**20.** Name the Nervous system mentioned in the table that increases the blood pressure.



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**21.** What systems constitute Autonomous Nervous System ?



**Watch Video Solution**

**22.** Observe the following diagram. What does it represent ?

Explain the process in a flow-chart.



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**23.** The drunken man does not walk properly.



**Watch Video Solution**

**24.** Identifies the food items without seeing which are being prepared in the kitchen ?



**Watch Video Solution**

**25.** Naveen lost his money purse while coming to the school. But he is not crying.



**Watch Video Solution**

**26.** It is time for lunch.





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27. I cannot tolerate this type of heat in the summer.



[Watch Video Solution](#)

28. Catching the ball perfectly.



[Watch Video Solution](#)

29. There may be a drainage behind the house.



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30. Look at the picture and answer the questions :



To which system does the diagram belong ?



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**31.** What is the name of A,B parts ?



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**32.** What is 'C' ? What is its function?



**Watch Video Solution**

**33.** Through which horn the sensory nerve enters ?



**Watch Video Solution**

**34.** Observe the following table and answer the questions.



On what basis the above classification done ?



**View Text Solution**

**35.** From which gland, Adrenalin released ?



**Watch Video Solution**

**36.** Which hormone is responsible for closing of stomata ?



**Watch Video Solution**

**37.** What are the functions of Auxins ?



**Watch Video Solution**

**38.** Karthik is suffering from excess sugar in urine and Varun is suffering from repeated

dilute urination. What are the reasons for these diseases ? Explain.



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**39.** Write contrasts and comparisons of the style of response in plants and animals to the stimuli.



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**40.** Read the below paragraph and write answers.



What does this information shows ?



**View Text Solution**

**41.** Read the below paragraph and write answers.

There is systematic method in showing response to stimuli. There is different stages

in it. First stage starts with the response recognizing the changes in out side or inside of the body atmosphere with recognizing the stimuli. Transmitting the received information is second stage, analysing that information is third stage and showing correct response to that stimuli is the stage.

b) Convert the above information into flow chart.



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**42.** Read the below paragraph and write answers.

There is systematic method in showing response to stimuli. There is different stages in it. First stage starts with the response recognising the changes in out side or inside of the body atmosphere sith recognising the stimuli. Transmitting the recieved information is second stage, analysing that information is third stage and showing correct response to that stimuli is the stage.

c) Write about the mechanism that conducts this action.



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**43.** See the below action. What does it indicate? Explain with an example.



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**44.** Describe the structure of brain.



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**45.** All the activities of human are controlled by a vital organ. With the help of neat labelled diagram describe its structure.



**Watch Video Solution**

**46.** Describe the structure of spinal cord.



**Watch Video Solution**

**47.** What were the studies of the experimentalists on spinal cord ?



**Watch Video Solution**

**48.** What do you understand by peripheral nervous system ?



**Watch Video Solution**

**49.** Give an example of autonomous nervous system.



**Watch Video Solution**

**50.** Explain how coordination takes place without nerves by the story of Insulin.



**Watch Video Solution**

**51.** What are endocrine glands ? Mention their functions.



**Watch Video Solution**

**52.** What is feedback mechanism ?



**Watch Video Solution**

**53.** What is autonomous nervous system ?



**Watch Video Solution**

**54.** Explain two tropic movements with suitable examples.



**Watch Video Solution**

**55.** On the basis of pathways, how many types of nerves are there ?



**Watch Video Solution**

**56.** How does a nerve impulse travel through the body ?



**Watch Video Solution**

**57.** Can you imagine how is it happening?  
Would you think it is responding to a stimulus ?



**Watch Video Solution**



**58.** What happens if testis and ovary does not function properly ?



**Watch Video Solution**

**59.** If you get a chance to meet a neurologist/neurophysician what type of questions you will ask to keep your Nervous System healthy ?



**Watch Video Solution**

**60.** Write the following items about the experiment you have done to show that plants move to light.

Used equipments



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**61.** Method of the experiments



**Watch Video Solution**

**62.** Observed results.



**Watch Video Solution**

**63.** Write brief notes on Ivan Pavlov's experiment on dog to demonstrate conditioned reflexes.



**Watch Video Solution**

**64.** What experimental procedure will you follow to prove phototropism and geotropism in germinating seeds ?



**Watch Video Solution**

**65.** Rangalah is not feeling well. The following are the results of tests. Analyse the table. Write answers for the following questions.



How can you state the Rangaiah is diabetic ?





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**66.** What are the tests to know about Bilirubin?



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**67.** Rangaiah is not feeling well. The following results have come in the tests. Analyse the table. Write answers for the following questions.

Tests	Present status	Normal range
<b>Blood test :</b>		
1. Blood pressure	160/90	120/80
2. Glucose (fasting)	120	60 - 100
3. Glucose (post lunch)	220	160 - 180
4. Bilirubin	10	0.1 - 0.8
<b>Urine test :</b>		
1. 24 hours proteins	150 mg	100 mg
2. Sodium	140	125 - 250

iii) What do you understand from the above report?



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68. What questions do you ask the doctor on the above report ?



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**69.** Write the list of questions to ask the manager of the garden of your village to know Which plants are grown through grafting.



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**70.** Explain some major plant hormones and their functions in a tabular form.



**Watch Video Solution**

**71.** Observe the information from above table and answer the questions given below.

Which hormone is responsible for reduction of transpiration in plants ?



**Watch Video Solution**

**72.** What are the hormones that help in the growth of plants ?



**Watch Video Solution**



**73.** What is the use of Ethylene in plants ?



**Watch Video Solution**

**74.** Which hormone promotes seed dormancy and breaks the dormancy in seeds ?



**Watch Video Solution**

**75.** Which hormones help in delaying the ageing in vegetable leaves like spinach ?



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**76.** Explain Endocrine glands in a tabular form.



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**77.** Draw a diagram of Reflex arc and describe the functions of different parts of Reflex arc



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**78.** Draw the diagram of afferent nerve and label the parts.



**Watch Video Solution**

**79.** Draw the neuron which carries messages from brain/spinal cord to muscles.



**Watch Video Solution**

**80.** The diagram given below depicts the cross-section of the spinal cord. Label the parts.



**View Text Solution**