

1. Sensations And Responses

Class 10 Biology

- Analyse the relationships and fill in the blanks :
 - Brain : Meninges : Skull,
Spinal cord : Meninges : ----- ?
 - Maintain homeostasis : Hypothalamus,
Coordination of muscular actions : ----- ?

- Name the processes which are mentioned here.
 - Withdrawal of the leg when a spine pierce in to the feet.
 - Sudden fright when hearing a loud noise from behind.

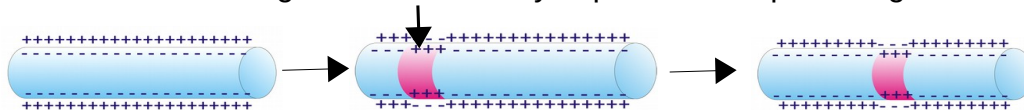
- Classify the following nerves as sensor, motor and mixed nerves.

[Spinal nerve, Optic nerve, Nerve for the movements of the eyelids]

- Fill in the blanks :

Part of brain	Peculiarity	Function
Cerebrum	a	Thought, intelligence, memory, sensations.
Cerebellum	Second largest part	b
c	Rod shaped lower part.	Heart beat and breathing.
Thalamus	Seen below the cerebrum.	d
Hypothalamus	e	Maintenance of homeostasis.

- On the basis of following illustration, briefly explain how impulse is generated in neurons.



- Replace the underlined part with right word to correct the sentences :

- Continuous and irregular discharge of electrical impulses in brain causes Parkinson's disease.
- The junction between two neurons, is known as receptor.

- Explain the reason :

- Any mild injury to the medulla oblongata may lead to sudden death.
- Cerebral cortex is seen as gray in appearance.
- The speed of impulse will be faster in myelinated neuron than the non-myelinated neuron.

- From the given hints, find out the disorders A and B.

A

Irregular movements of muscles due to degeneration of specific ganglia followed by a decrease in the production of dopamine.

B

Loss of memory when degeneration of neurons occur due to the accumulation of an insoluble protein in the brain.

- Observe the flow-chart and name the process.

Stimulus – Receptor – Sensory neuron – Inter neuron – Motor neuron – Muscle

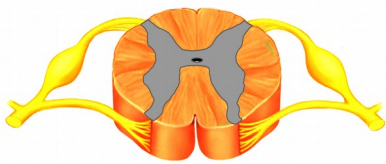
11. Arrange the following processes under suitable headings :

- * Heartbeat becomes normal.
- * Trachea expands.
- * Peristalsis increases.
- * Converts glycogen to glucose.
- * Production of saliva increases.
- * Pupil constricts.

12. Give any two examples, each of the following.

- a). Neurotransmitters.
- b). Autonomous nerves.

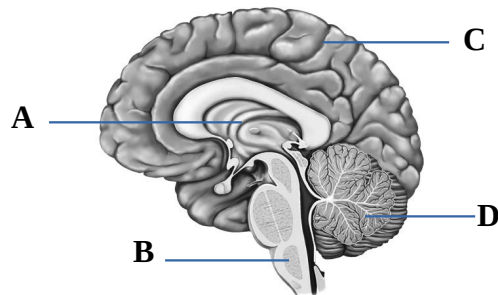
13. Observe the figure of spinal cord and answer the questions :



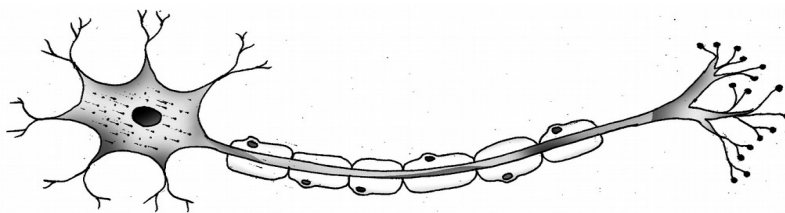
- a). The part where cerebrospinal fluid is seen ?
- b). The root from which the sensory nerve fibre begins ?
- c). The nerve which converts the sensory impulse to a motor impulse, during a reflex action. ?

14. Name the parts, which are labelled as A, B, C, D .

(You need not draw the figure). What is the function of D ?



15. Redraw the given figure in large size. Find out the name of the following parts and label them correctly.



- a)- Part, which secretes neurotransmitter to the synaptic cleft.
- b)- Part, that carries impulses to the cell body.
- c)- The protective envelope of the axon.

2. Windows Of Knowledge

Class 10 Biology

1. Select the odd one from the list. What is common in others ?
 [Conjunctiva, Cochlea, Eustachian tube, Auditory nerve]

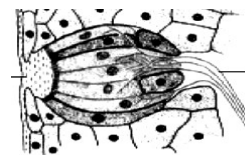
2. Name the following process :
 - Coordination of the two images of both eyes by our brain to get a 3D view of the object.

3. Find out the missing disorders **a** and **b** of the table :

Disorder	----- (a) -----	----- (b) -----
Symptoms	Increased pressure inside the eyeball due to the obstructed reabsorption of aqueous fluid	Conjunctiva and cornea became dry and opaque due to the prolonged deficiency of vitamin A

4. The figure indicates a special sensory receptors.

Name the receptors.
 In which sense organ that these receptors seen ?



5. Correct the sentence by replacing the word which is underlined in each statement.

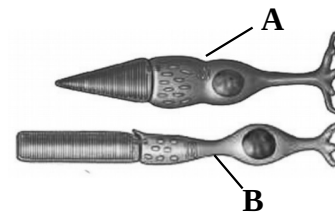
- a). The blind spot of retina contains plenty of photoreceptors.
- b). Synapse connects the middle ear to the pharynx.

6. Find out the reason :

- a). The size of pupil is adjusted according to the intensity of light.
- b). Deficiency of vitamin A affects our vision badly.

7. In the given figure, modified neurons can be seen:

- a). Identify and name the **A** and **B** of the figure.
- b). Where this can be seen ?
- c). How **A** is different from **B** in its function ?



8. **Rhodopsin** \longleftrightarrow **Retinal + Opsin**

- a). Name the layer of eye, in which the above process occur.
- b). What will be the effect of this process ?

9. Differentiate between

- a). Organ of Corti and Jacobson's organ.
- b). Photopsin and Rhodopsin.

10. Make suitable pairs, using the items given in the box.

Ommatidia, Eyespot, Lateral line,
 Planaria, Shark, Housefly

11. Which one is the right flowchart ?

- a). Particles dissolve in saliva – Brain – Chemoreceptors – Nerve.
- b). Particles dissolve in mucus – Olfactory receptors – Nerve – Brain.
- c). Oval window – Nerve – Ear ossicles – Hair cells inside cochlea – Brain.

12. Give any two examples, each of the following.

- a). Photo receptors.
- b). Autonomous nerves.

13. Cochlea, Vestibule and Semicircular canals are included in the internal ear.

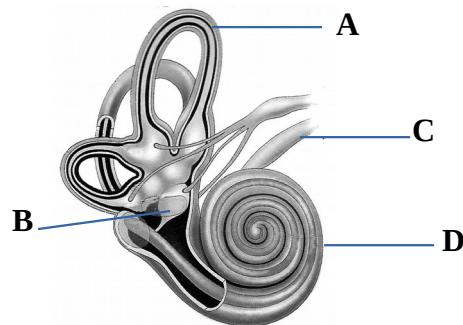
- a). How these parts are generally called ?
- b). Of these, choose the parts which help in the balancing of body.

14. Complete the table of a few body secretions.

	Name of organ	Function
i. Endolymph	-----(a)----	Hearing, Body balancing
ii. Vitreous humor	-----(b)----	-----(c)----
iii. Aqueous humor.	Eye	-----(d)----

15. Name the parts, which are labelled as A, B, C, D .

(You need not draw the figure). What is the function of A ?



16. The following diagram of eye is incomplete. Complete it and label the name of following parts, correctly, on it.



- a)- The part which carries impulses to brain from retina.
- b)- The anterior transparent part of sclera that allows light to enter.
- c)- The chamber filled with a jelly like fluid that sustain the shape of the eyeball.

3. Chemical Messages For Homeostasis

Class 10 Biology

1. Analyse the relationships and fill in the blanks :

a). Islets of Langerhans : α cells : Glucagon ;
Islets of Langerhans :?..... :

b). Hypothalamus : Releasing hormone,
----- ?----- : Inhibitory hormone.

2. Choose the odd one from the brackets. Justify your answer.
[Testosterone, Gibberellin, Progesterone, Somatotropin]

3. Find out the incorrect pair and correct it.

- a). Thyroxine – Youth hormone.
- b). Testosterone – Sex hormone.
- c). Abscisic acid – Plant hormone.
- d). Civeton – Pheromone.

4. Find out the hormonal disorders from the following hints :

- a). Insulin injection, diet control.
- b). Iodized salt, Leafy vegetables, sea food items.

5. Elucidate the reason :

- a). Production of urine decreases during summer season.
- b). Pineal gland is also known as the ‘biological clock’ of the body.
- c). Ants can follow their members along the same path.
- d). Endocrine glands are called as the ‘ductless glands’.

6. TSH, GTH, ACTH are certain hormones seen in the human body.

- a). What is the common name of these hormones ?
- b). Name the endocrine gland from which the above hormones are secreted.
- c). What is the role of GTH ?

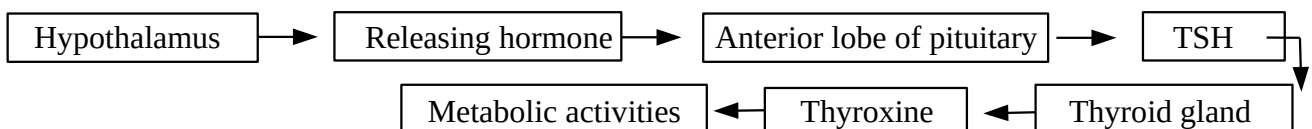
7. Replace the underlined part with right word as answer :

- a). The plant hormone cytokinin is in gaseous form.
- b). The normal rate of glucose in our blood is $9-11\text{mg}/100\text{ml}$.

8. Compare between :

- a). Diabetes mellitus and Diabetes insipidus.
- b). Gigantism and Acromegaly.

9. Make a brief note on the given flow-chart :

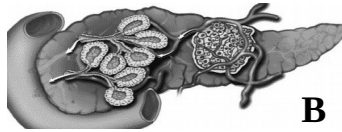


10. Mention any two uses of artificial plant hormones in the field of agriculture.

11. ‘Both the under secretion and over secretion of the hormone thyroxine affect the functions of our body’.

Justify this statement with two examples.

12. a). Identify and name the glands **A** and **B**.
 b). Choose the gland which secretes the hormone, glucagon.



13. Suitably pair the items of column **A** with that of **B**.

A	B
a). Civetone	Musk deer
b). Muscone	Silk worm moth
c). Bombycol	Civet cat

14. Choose the right answers from the box :

Parathormone, Thymosine,
 Insulin, Cortisol,
 Aldosterone, Vasopressin,
 Calcitonin, Glucagon

- a. Choose the 'Anti diuretic hormone'.?
 b. The two hormones which regulate the level of calcium in the blood.
 c. Which are the hormones for blood glucose level ?
 d. Hormone, used to prevent allergy and inflammation.

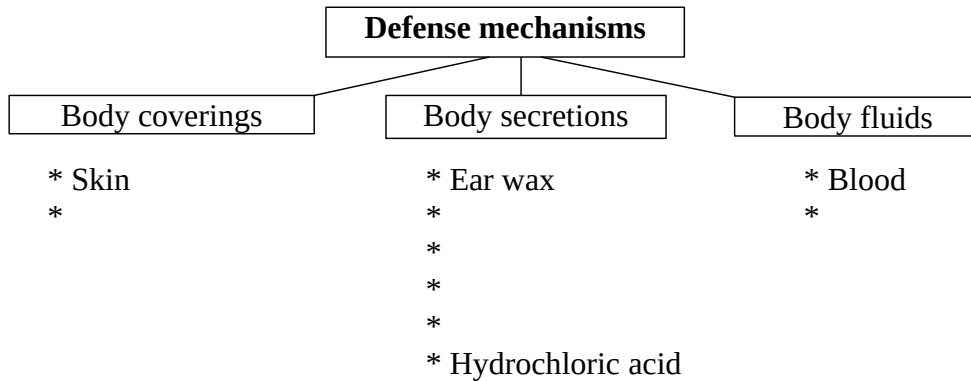
15. Complete the following table of plant hormones.

Phytohormone	Action	
----- ? -----	Growth of terminal bud.	Cell growth
Ethylene	----- ? -----	Ripening of leaves.
Gibberellin	Sprouting of leaves	----- ? -----
----- ? -----	Dormancy of embryo in the seed	----- ? -----

Unit-5 Soldiers of Defense

Model Questions

- Keratin, Sebum and Sweat.
How do these help our skin to defend pathogens ?
- Saliva : Lysozyme ;
Tears : ----- ?
- Complete the flow chart which shows the ways of body defense:



- Monocyte, Basophil, Neutrophil, Eosinophil, Lymphocyte
 - Suggest a common name for these.
 - Which of these destroy antigens specifically, after identifying them ?
 - From the above box, choose the items that produce chemicals against germs.
 - Choose the items that engulf and destroy pathogens.

- The given figures, A and B are white blood cells for specific defense.
 - Identify and name each.
 - Of these, which one produces antibodies ?

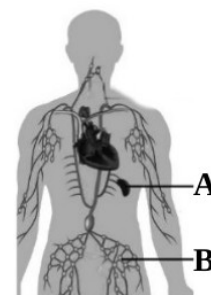


- Arrange the stages of the process of blood clotting, given below, in right order.
 - With calcium and vitamin K, thromboplastin converts prothrombin to thrombin.
 - In the fibrin net, RBCs and platelets entangled to form the blood clot.
 - Tissues and platelets at the site of wound degenerate to form the enzyme, thromboplastin.
 - Thrombin converts fibrinogen to fibrin.
- Arrange the following stages of a process in right order,
 - Suggest an apt name for this process.
 - The enzyme in the lysosome destroys the pathogen.
 - Engulfs the pathogen in the membrane sac.
 - Expels the remnants.
 - Membrane sac combines with lysosome.

- [Phagocytosis, Clotting of blood, Fever.]
These are different strategies of defense against antigens.
 - Add any two other strategies of defense to the above group.
 - Give two examples for phagocytes.

- Fever is not a disease, but a defense mechanism of the body.
 - What is the cause of rise in body temperature?
 - How is fever act as one of the strategies of defense ?

- Name this body system which functions as in defense process.
 - Name the parts labelled as A and B in the figure.
 - How these parts (A and B) act against pathogens ?



11. Identify the defense process given as A and B. Fill in the blanks too.

A). Prothrombin $\xrightarrow[\text{Calcium, Vit. K}]{\text{Thromboplastin}}$ -----?-----

B). Fibrinogen $\xrightarrow{\text{Thrombin}}$ Fibrin fibres.

12. Vaccines are the substances used for artificial immunization.

a. Who introduced immunisation? Which was the first vaccine ?

b. What are the components of vaccines ?

c. Diphtheria : Pentavalent vaccine;

----- : BCG vaccine.

13. Define the following:

* Inflammatory response.

* Phagocytosis.

* Antibody.

* Vaccine.

14. Due to certain side-effects, antibiotics should not be used without the recommendation of a doctor.

Mention any two side-effects.

15. Identify and name the instrument, shown in the figure:



16. a. Ophthalmology : Eye treatment,

Oncology : ----- ?

b. ECG : Electro cardio Gram,

EEG : ----- ?

17. Suitably arrange the items of columns B and C with that of column A :

A	B	C
a). Sebum	-Mucus	-Tetanus
b). Pentavalent	-Antibiotic	-Prevents germs
c). Penicillin	-Skin	-Immunization
	-Vaccine	-Antibody

18. Smitha faced difficulty in obtaining A negative blood during the surgery of her sister.

a. What are the other possible blood groups that can be given to the person ?

b. Everyone cannot receive blood from all blood groups. Why?

19. Make a table that shows the four types of blood groups, containing antigens and the possible antibodies in persons having each group.

20. Make one question each for getting the following words as its answers.

a. Callose b. Cuticle.