

**Chapter-10**

**NEURAL CONTROL AND COORDINATION**

**Each question carry one score**

1. ....are the structural and functional units of neural system.
2. Granular bodies present in the cell body of neuron is called.....
3. Which part of neuron carries impulse away from cell body?  
a)Dendrite b)Axone  
c)Dendron d)Schwann cells
4. The rods contain a purplish-red protein called the rhodopsin or visual purple, which contains a derivative of.....  
a)Vitamin A b)Vitamin C  
c)Vitamine D d)Vitamin K
5. Which of the part of brain control respiration and gastric secretions?  
a) Cerebrum b) Cerebellum  
c) Medulla d) Hypothalamus
6. Find the odd one and write the reason for selection  
a)Pons,Thalamus,medulla,cerebellum  
b)Cochlea,Utricle,Saccule,semicircular canal  
c)Pinna,Semicircular canal, Cochlea, Ear drum
7. The gaps between two adjacent myelin sheaths are called.....
8. Which of the following organ act as the 'Command control system  
a)Brain b)Spinal cord c)Liver d)Kidney
9. The dorsal portion of the midbrain consists mainly of four round swellings (lobes) called.....
10. .... is the visible coloured portion of theHuman eye  
a)Cornea b)Lens c)Iris d)Retina
11. The Cerebral hemispheres are connected by a tract of nerve fibres called .....  
a)Isthmus b)Meninges  
c) corpus callosum  
d)Thalamus
12. Which Part of fore brain control body temperature, urge for eating, and drinking?  
a)Cerebrum b)Cerebellum

**c)Thalamus d)Hypothalamus**

13. Observe the first pair of words and write a suitable word for the second  
a)Heart : Pericardium  
Brain: .....
- b)Cone cells : Photopic vision  
Rod cells :.....
- c)Cone cells : Iodopsin  
Rod cells :.....
- d)Otolith organ: Macula  
Ampulla :.....
14. ....is a thinned-out portion of the retina where only the cones are densely packed.  
a)Fovea b)Sclera c)Choroid d)Pelvis
15. The innermost layer of eyeball is called .....  
a) Choroid b) Iris c) Retina d) Sclera
16. Fovea of Retina of eye contains.....  
a) Rod cells only  
b) Cone cells only  
c) Both Rods and cones  
d) Rods and cones are absent
17. In the human eye, there are three types of cones which possess their own characteristic photopigments that respond to red, green and blue lights. Which colour is produced When these cones are stimulated equally?
18. Visual acuity (resolution) is the greatest in which part of human eye.?
19. Which organ in our body helps in hearing and balancing of body  
a)Ear b)Eye c)Skin d)Nose
20. Write 2 membranes which constitute cochlea ?
21. Swollen end of semicircular canal is called  
a)Ampulla b)Utricle  
c)Cochlea d)Otolith organ
22. Which cells of the retina enable us to see coloured objects around us?
23. The fluid-filled inner ear called .....
24. While travelling to higher altitudes, people can feel pain in the ear and dizziness. Which part, among the following is involved?  
(a) Cochlea, ear ossicles  
(b) Tympanic membrane  
(c) Eustachian tube, utricle, saccule and semicircular canals

- (d) None of the above
- 25. The “part of internal ear responsible for hearing is  
 (a) Cochlea (b) Semicircular canal  
 (c) Utriculus (d) Sacculus
- 26. The organ of Corti is a structure present in  
 (a) External ear (b) Middle ear  
 (c) Semicircular canal (d) Cochlea
- 27. Wax gland present in the ear canal is called  
 (a) Sweat gland  
 (b) Prostate gland  
 (c) Cowper’s gland  
 (d) Sebaceous gland/ceruminous gland
- 28. Chemicals which are released at the synaptic junction are called  
 (a) Hormones  
 (b) Neurotransmitters  
 (c) Cerebrospinal fluid (d) Lymph
- 29. Which of the following is not involved in knee-jerk reflex?  
 (a) Muscle spindle (b) Motor neuron  
 (c) Brain (d) Inter neurons
- 30. Mark the vitamin present in rhodopsin.  
 (a) VitA (b) Vit B (c) VitC (d) Vit D

**Each question carry two score**

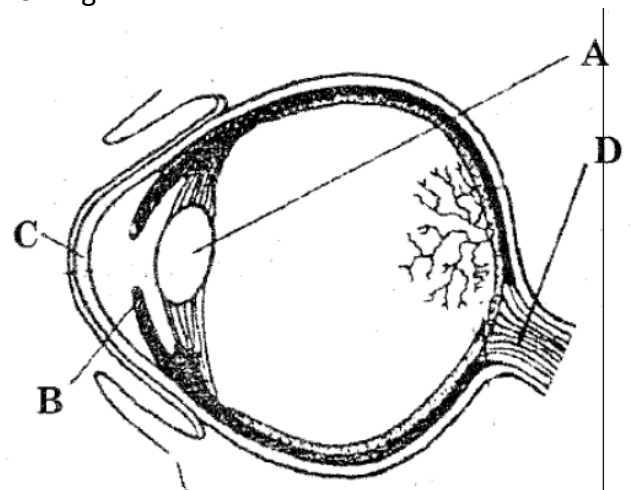
- 31. What do grey and white matter in the brain represent?  
**Ans:** The layer of cells which covers the cerebral hemisphere is called cerebral cortex and is thrown into prominent folds. The cerebral cortex is referred to as the grey matter due to its greyish appearance. The neuron cell bodies are concentrated here giving the colour. Fibres of the tracts are covered with the myelin sheath, which constitute the inner part of cerebral hemisphere. They give an opaque white appearance to the layer and, hence, is called the white matter.
- 32. Retina of human eye contain photoreceptor cells, cones and rod cells.  
 a) Which pigment is present in the rod cells?  
 b) How many types of cone cells present in human eye?  
 c) Protein part of photopigment is called.....
- 33. Arrange the following in the order of reception and transmission of sound wave from the ear drum:

**Cochlear nerve, external auditory canal, ear drum, stapes, incus, malleus, cochlea.**

- 34. Human Brain has 3 parts, Fore brain, Mid brain and Hind brain  
 a) What are the parts of mid brain and Hind brain  
 b) Which part of hind brain concerned with gastric secretion
- 35. Compare rods and cones of the retina based on the following features  
 i) Shape  
 ii) Type  
 iii) Ability to detect colour  
 iv) Pigments  
 v) Vision
- 36. Match the following

Column A	Column B
Sclera	Fovea
Choroid	Outer most layer of human eye
Photoreceptor cells	it contains many blood vessels and looks bluish in colour
Visual acuity	Rods and Cones

- 37. Observe the diagram carefully and answer the following



- a) Label the parts marked as A, B, C, D?  
 b) Identify the photoreceptor cells present in the human eye?
- 38. Classify the neurons based on the number of axon and dendrites,? Write the location of these neurons
- 39. Explain the following terms  
 a) Synapse

- b)Reflex action
- 40. Where you can find
  - a)Synaptic vesicle
  - b)Bipolar neuron
  - c)Myelinated neuron
  - d) Nissl's granules
- 41. In...(a) type of synapse the membranes of pre synaptic and post synaptic neurons are in very close proximity  
 In...(b)..type of synapse the membrane of pre synaptic and post synaptic neurons are separated by a fluid filled space
  - a)Name the type of synapse A and B
  - b)Name the fluid filled space in the synapse B
- 42. Prepare a flow chart showing the parts of human brain, by using the details given below

**Pons,Cerebellum,Medulla,  
Corpora quadrigemina,Cerebrum**

- 43. Distinguish between the following :
  - (a) Electric synapse and Chemical synapse
  - (b) Rods and cone
- 44. Explain the following terms
  - a)Reflex action
  - b) Reflex arc
- 45. Differentiate between
  - a)Unipolar neuron and bipolar neuron
  - b) myelinated and non myelinated Neuron
  - c) Electrical synapses and chemical synapses
  - d)Yellow spot and bind spot
- 46. Mention the function of the following structure in Human body?
  - a) Hypothalamus b)axon
- 47. Rearrange the following in the correct order of involvement in electrical impulse movement:

**Synaptic knob, dendrites, cell body,  
Axon terminal, Axon**

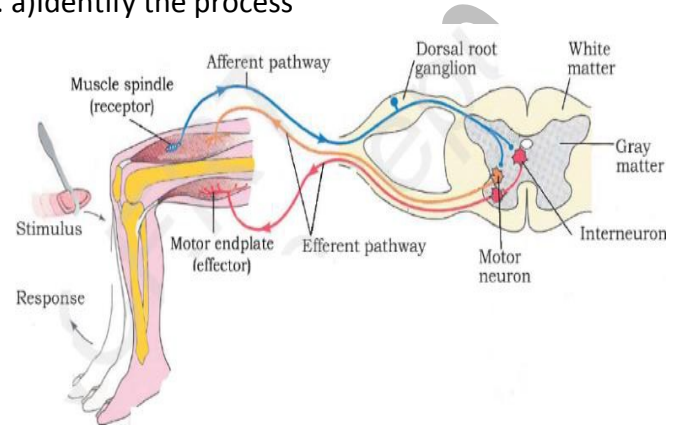
- 48. Name the three ossicles in Human middle ear? What are the functions of these ossicles?

**Each question carry three score**

- 49. Identify the part of Human Brain
  - a)Tract of nerve fibre that connect two cerebral hemisphere
  - b)Part of fore brain which control temperature, urge for eating and drinking
  - c)Four round swelling on the dorsal side of fore brain

- d) Part of brain Concerned with muscular coordination, maintain posture, orientation and equilibrium of the body
- e)Part of brain which control respiration, cardiovascular reflexes ,peristalsis, vomiting, and gastric secretions
- f) it consists of fibre tracts that interconnect different regions of the brain.

- 50. a)Identify the process



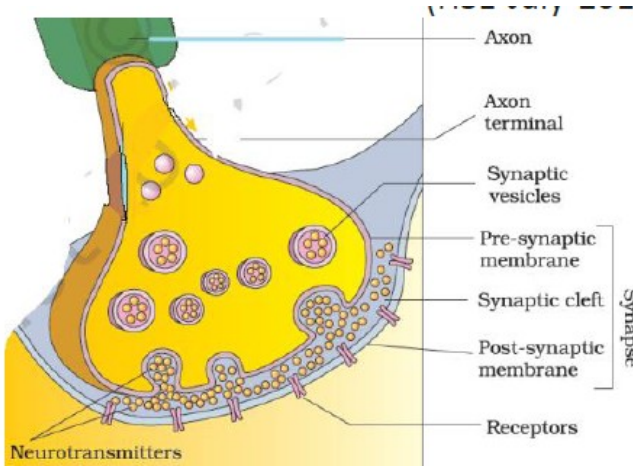
- b)Which part of human body control this ?
- c)Give an example for this kind of action ?
- d)Arrangement of Impulse pathway of this action is called.....

- 51. Retina is the innermost layer of the eye .it contains three layers of cells
  - a)Arrange these layers of cells from inside to outside
  - b)Name the photoreceptor cells present in the Retina
  - c)Which nerve carry visual impulse to Human brain

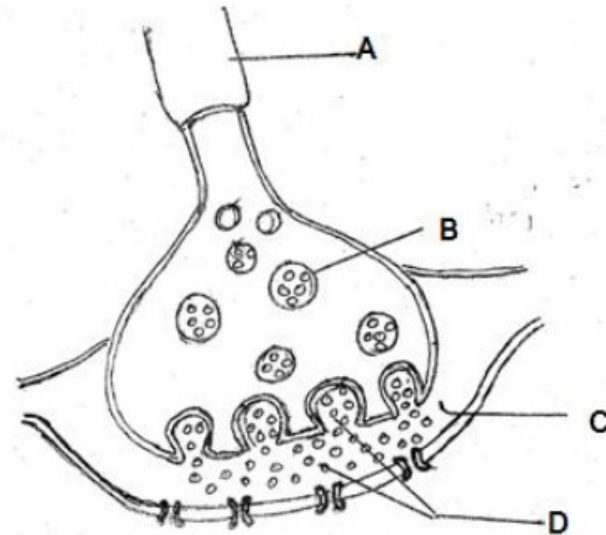
- 52. Match the following

Column A	Column B	Column C
Unipolar neuron	one axon and two or more dendrites	usually in the embryonic stage
Bipolar neuron	one axon and one dendrite,	Found in cerebral cortex
Multiepolar neuron	one axon only	found in the retina of eye

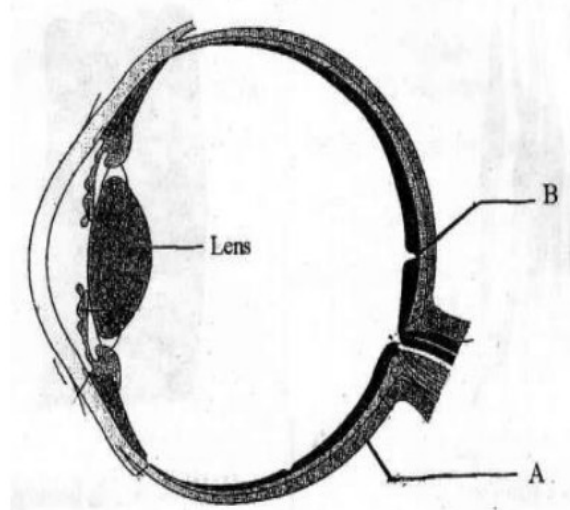
- 53. Observe the diagram and construct a flow chart to show the mechanism of transmission of nerve impulse across a chemical synapse



- iii) Corpora quadrigemina
  - iv) Pons varoli
- b) Observe the diagram and Label A, B, C and D

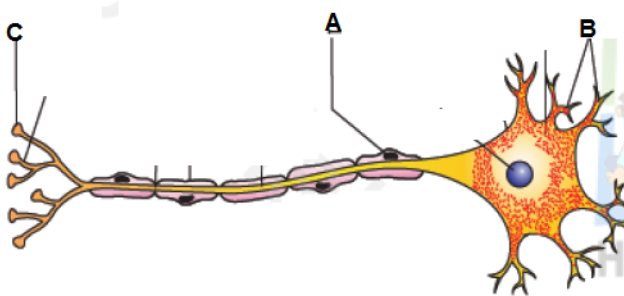


54. Redraw the diagram. Name and label the parts indicated below



A - External layer of the eye ball.  
B - Part where cones are densely packed.

55. a) Identify the figure



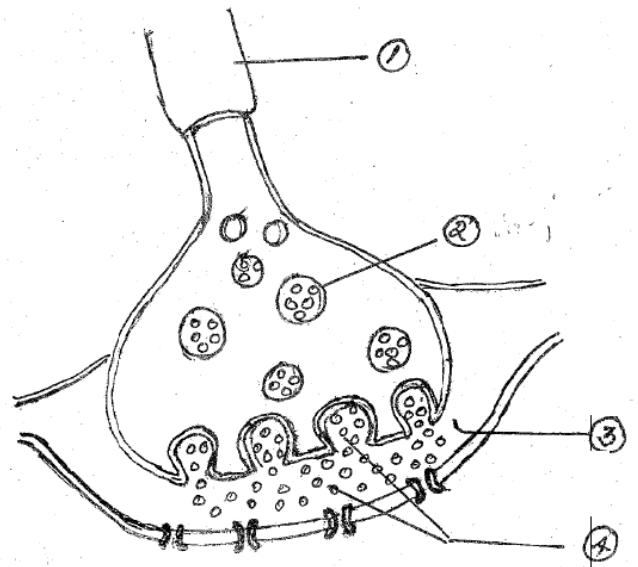
b) Label A, B and C  
c) Write any two examples for neurotransmitter?

56. Answer the following

- a) Cerebral hemispheres of Human Brain are connected by.....
  - i) Association area
  - ii) Corpus callosum

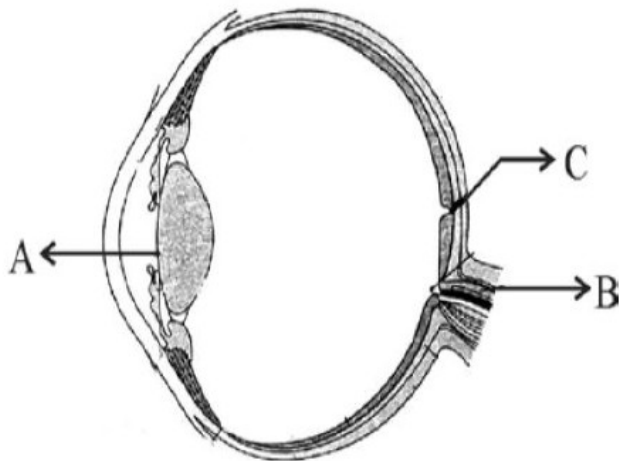
57. a) Prepare a pathway of an action by using the following hint  
(Hint : Receptor, motor neuron, afferent neuron, efferent neuron, inter neuron in the spinal cord, effector organ )  
b) Give an example of such an action  
c) Which part of CNS control this

58. Write the function of part-1 and 4. Label part 2 and 3 in the following figure showing synapse (No need to Copy the picture)





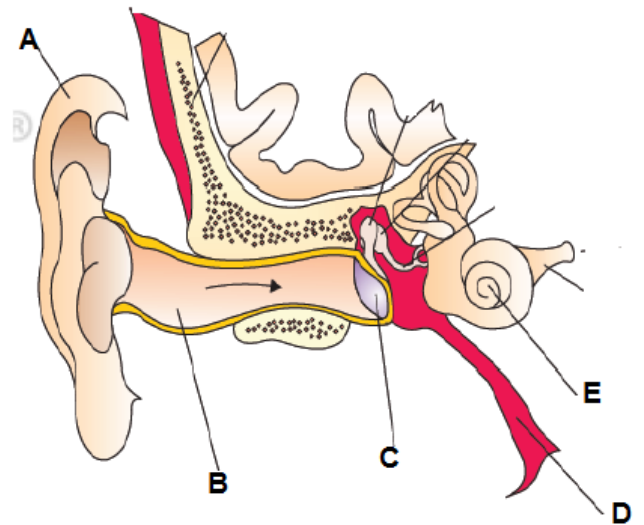
59. Observe the diagram



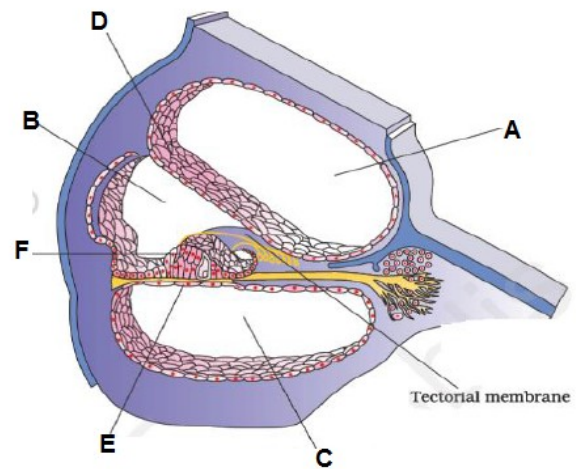
- (a) Name the parts A & B.
  - (b) Write the characteristics features of 'C'.
  - (c) Arrange the given parts of eye in the sequence that light travels from the external
60. Given below stages in generation of optic nerve impulse or action potential on the retina and the role of opsin and retinal in the mechanism of vision. Arrange them in a sequential order

- a) Action potential (impulses) are transmitted by the optic nerves to the visual cortex area of the brain.
- b) Light induces dissociation of retinal from opsin.
- c) Generates action potential in the ganglion cells through bipolar cells.
- d) Structural changes in the opsin which induce membrane permeability changes.
- e) Potential differences are generated in the photoreceptor cells.
- f) Neural impulses are analyzed by visual cortex area of the brain.

61. Observe the figure and answer the following questions



- a) Label A, B, C, D and E
  - b) What is the function of D
62. Diagrammatic representation of the sectional view of cochlea is given below



- a) Label A, B and C
- b) D and E are membrane separating A, B and C, Label D and E
- c) 'E' contains hair cells that act as auditory receptors., label E



[Click on the logo and watch video lessons](#)