

1. What does the Neuron doctrine state? Choose the correct option.
 - A) Neurites of different cells fuse together to form a continuous reticulum.
 - B) Individual cells communicate by contact and not continuity.
 - C) Cell body of a neuron contains organelles.
 - D) Elementary functional unit of all tissues is the individual cell.Ans: B
Difficulty: Easy

2. What is the function of MAPs? Choose the correct option.
 - A) Regulates the function and assembly of microtubules
 - B) Regulates the function and assembly of microfilaments
 - C) Regulates the function and assembly of neurofilaments
 - D) Regulates the function and assembly of cytoskeletonAns: A
Difficulty: Moderate

3. Neurons comprise two types of processes: axons and dendrites. What is the major difference between the two? Choose the correct option.
 - A) Dendrites are of uniform diameter throughout while axons taper to a point.
 - B) Dendrites receive incoming signals from other neurons while axons carry the output of the neurons.
 - C) A cell body gives rise to a single dendrite and multiple axons.
 - D) Dendrites travel long distances while axons taper to a point.Ans: B
Difficulty: Easy

4. A scientist looks through a microscope at the structure of the neuron. The scientist notices a layer of molecules separating the neuron's intracellular space from the extracellular space. What is this part of the neuron known as? Choose the correct option.
 - A) Organelle
 - B) Soma
 - C) Neuronal membrane
 - D) Nuclear envelopeAns: C
Difficulty: Moderate

5. What do you understand by the term “translation”? Choose the correct option.
 - A) Assembling a piece of mRNA
 - B) Assembling proteins from amino acids
 - C) Removal of introns and specific exons
 - D) The “reading” of DNAAns: B
Difficulty: Easy

6. What is the most important function of the rough endoplasmic reticulum? Choose the correct option.
A) RNA splicing C) Site of protein synthesis
B) Post-translational protein processing D) Cellular respiration
Ans: C
Difficulty: Moderate
7. What does the mitochondrion “inhale”? Choose the correct option.
A) Pyruvic acid B) Cytosol C) Adenosine triphosphate D) Amino acids
Ans: A
Difficulty: Easy
8. Identify an important difference between the cytoplasm of the axon and that of the axon terminal. Choose the correct option.
A) Protein content of the membrane differs from the soma
B) Occurrence of protein synthesis
C) Presence of ribosomes
D) Large numbers of mitochondria
Ans: D
Difficulty: Easy
9. What is the function of a neurotransmitter receptor in the dendritic membrane? Choose the correct option.
A) Release synaptic vesicles
B) Detect neurotransmitters
C) Destroy extra neurotransmitter left in the synaptic cleft
D) Form gap junctions
Ans: B
Difficulty: Moderate
10. Identify the protein that helps anterograde transport to move materials from soma to the terminal. Choose the correct option.
A) Dynein B) Kinesin C) Pyruvic acid D) MAP
Ans: B
Difficulty: Difficult
11. Which of the following is the largest of the cytoskeletal elements? Choose the correct option.
A) Microfilament B) Neurofilament C) Microtubule D) Tubulin
Ans: C
Difficulty: Easy

12. What is retrograde axoplasmic transport? Choose the correct option.
A) Movement of material from axon terminal to soma
B) Movement of material from soma to axon terminal
C) Movement of material within the synaptic terminal
D) Movement of material among axon collaterals
Ans: A
Difficulty: Difficult
13. Some neurons have long axon that stretches from one part of the CNS to another. What are these called? Choose the correct option.
A) Interneurons
B) Golgi type II neurons
C) Golgi type I neurons
D) Motor neurons
Ans: C
Difficulty: Easy
14. What is the site where the axon begins? Choose the correct option.
A) Soma B) Axon hillock C) Axon collateral D) Axon terminal
Ans: B
Difficulty: Easy
15. Molecular neurobiologists study the information contained in genes to determine the structure and functions of the neuronal proteins.
Ans: True
Difficulty: Easy
16. Dendritic spines are sensitive to the quality of the environment experienced during early development.
Ans: True
Difficulty: Easy
17. During transcription, transcription factors regulate the process of binding RNA polymerase to the promoter to initiate RNA synthesis.
Ans: True
Difficulty: Moderate
18. Ribosomes take raw material in the form of amino acids and manufacture proteins using the blueprint provided by the mRNA.
Ans: True
Difficulty: Easy
19. Free ribosomes that appear to be attached by a thread are called polyribosomes. The thread is a single strand of _____.
Ans: mRNA
Difficulty: Easy

20. Pathological changes in axonal microtubule-associated proteins or MAP are called Tau. This pathological change is implicated in the dementia that accompanies _____.

Ans: Alzheimer's disease

Difficulty: Difficult