

المستوى الرابع (لائحة الساعات المعتمدة) برنامج البيولوجيا الجزيئية  
البيولوجيا الجزيئية للاعصاب (٤٠٥ ح)

Date: 10 / 1 / 2026

Time: 2 Hours

Mark: 90

الامتحان في ورقتين

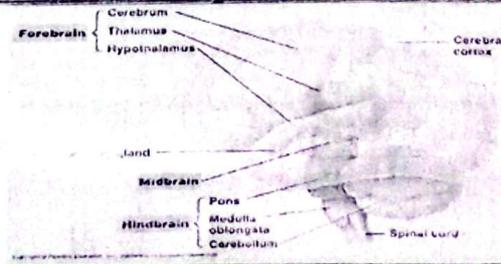
**Question One (20 Marks):**

**Mention the scientific term:**

- 1-(.....) The specialized cells of the nervous tissue.
- 2-(.....) Thread like structure present all over the nerve cell body.
- 3-(.....) Major glial cells in PNS Play important role in nerve regeneration.
- 4-(.....) a microscopic opening at the terminal of a neuron that facilitates the exchange of signals among neurons.
- 5-(.....) are protein transmitters that often are released together with other transmitters to have a modulatory effect.
- 6-(.....) This is the most common excitatory neurotransmitter of your nervous system.
- 7-(.....) are proteins inside a cell, located in the cytoplasm or nucleus, that bind to small, hydrophobic signaling molecules.
- 8-(.....) are cell surface receptors that, upon binding a signaling molecule (ligand), change shape to open an ion channel in the cell membrane.
- 9-(.....) are small glial cells in the peripheral nervous system that surround the cell bodies of neurons in ganglia.
- 10-(.....) is an assembly of six proteins that form the pore for a gap junction between the cytoplasm of two adjacent cells.

**Question Two (30 Marks):**

**Look at this figure and complete the following:**



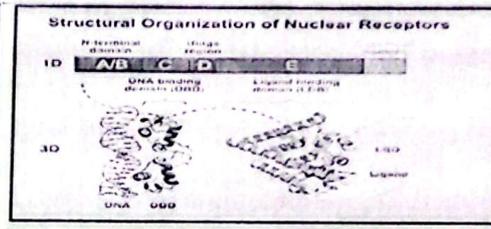
.....1... is the largest part of the brain. It is composed of .....2.... that are joined together by ...3....., dense bands of fibre called .....4.....

- The thalamus is a small structure, located ...5.... the brain stem responsible for .....6.... information from the .....7.....
- Thalamus is found in the ...8..... system within the cerebrum. This system is mainly responsible for the formation of ...9....memories and .....10.....past experiences.
- Tegmentum is a region within the .....11..... It is a complex structure with various components, which is mainly involved in body movements, sleep, arousal, attention, and different necessary .....12.....
- The medulla oblongata is ...13..... present in the lowest region of the brain. It mainly controls the body's .....14..... functions such as.....15.....

**Question Three (22 Marks):**

- In this figure:

Nuclear receptors are modular in structure and contain these domains. (Mention the structure and functions of that domains).



**Question Four (18 Marks):**

**What is the differences between the following**

- 1- Episodic memory and semantic memory.
- 2- Fibrous Astrocytes and Protoplasmic Astrocytes.
- 3- Procedural memory and Priming.

*With Best Wishes*

*Prof.dr. Lamiaa Deef*

*Dr. Shreen Fahmy*

*Head of Department: Prof.dr. Ayman Heder*