

ANSWER KEY	Chapter 11 Test Answer Key	BLM 11.4.1A
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Answers to **Multiple Choice** Questions

1. a
2. d
3. b
4. d
5. d
6. c
7. c
8. d
9. a
10. b
11. a
12. c
13. a
14. c
15. c
16. d
17. b
18. a
19. c
20. c
21. b
22. d
23. d
24. a
25. d

Answers to **Numerical Response** Questions

1. 2, 5, 4, 3
2. 6, 5, 4, 2
3. 2, 1, 4, 3

Sample Answers to **Written Response** Questions

1. a) The neurotransmitter most affected by Parkinson's is dopamine. (1 mark)

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b) The neurotransmitter dopamine is critical to the way the brain controls muscle movements. In the frontal lobes, dopamine controls the flow of information from other areas of the brain. (2 marks)

c) A person with reduced levels of dopamine in the brain loses the ability to execute smooth, controlled movements. The basil nuclei integrate motor commands, ensuring that proper muscle groups are activated or inhibited. (2 marks)

d) The meninges protect the CNS by preventing the direct circulation of blood through the cells of the brain and spinal cord. The blood-brain barrier both protects the brain and supplies the brain with nutrients and oxygen. The capillary walls form a barrier that blocks many toxins and infectious agents from entering the brain while allowing other substances, such as glucose and oxygen, to pass through the barrier by special transport mechanisms. There isn't a special transport mechanism for dopamine; therefore, it cannot cross the blood-brain barrier and does not reach the cells of the basil nuclei. (4 marks)

e) Societal Obstacles (accept any two of the following)

- lack of funding for research
- lack of funding for technologies
- difficulty testing new treatments in humans
- resistance by some groups to the use of using embryos as a source of stem cells
- accept any other reasonable societal obstacle

Technological Obstacles (accept any two)

- access to newly developed technologies
- time required for clinical trials to determine the effectiveness and safety of new treatments
- access to embryonic stem cells
- any other reasonable technology obstacle

(4 marks)