

Part C

Answer all questions in this part. [17]

Directions (56–64): Record your answers in the spaces provided in this examination booklet.

Base your answer to question 56 on the information below and on your knowledge of biology.

For Teacher
Use Only

Help for Aging Memories

As aging occurs, the ability to form memories begins to decrease. Research has shown that an increase in the production of a certain molecule, BDNF, seems to restore the processes involved in storing memories. BDNF is found in the central nervous system and seems to be important in maintaining nerve cell health. Researchers are testing a new drug that seems to increase the production of BDNF.

56 Design an experiment to test the effectiveness of the new drug to increase the production of BDNF in the brains of rats. In your answer, be sure to:

- state the hypothesis your experiment will test [1]
- describe how the control group will be treated differently from the experimental group [1]
- identify *two* factors that must be kept the same in both the experimental and control groups [1]
- identify the dependent variable in your experiment [1]

56