National 5 Biology

Control & Communication

1. Name the 3 parts of the nervous system.

   (3)

2. Name the 2 parts of the Central Nervous System (CNS).

   (2)

3. Name the 3 parts of the brain, and the function of each part.

   (3)

4. In order to read this question and write the answer, describe the 5 stages of the transmission of the nerve impulse.

   (5)

5. Describe what happens at a synapse.

   (3)

6. An experiment was carried out to investigate the effect of different distractions on reaction times. The results are shown in the table below.

Distraction	Attempt 1 (seconds)	Attempt 2 (seconds)	Attempt 3 (seconds)	Attempt 4 (seconds)	Attempt 5 (seconds)	Average (seconds)
Music	0.43	0.39	0.40	0.38	0.45	
Flashing Lights	0.35	0.32	0.31	0.32	0.30	
Music & Flashing Lights	0.48	0.50	0.41	0.45	0.46	
No distraction	0.24	0.21	0.23	0.22	0.20	

(a) Calculate the averages and present them in a bar graph.

   (5)

(b) Describe the relationship between the level of distraction and the reaction rate.

   (1)

(c) How would you improve the reliability of these results?

   (1)

7. What is a reflex action?

(1)

8. Why are reflex actions important?

(1)

9. Give three examples of a reflex action.

(3)

10. Describe the path of a reflex action.

(2)

11. Define each of the following:

    (a)   Stimulus
    (b)   Synapse
    (c)   Effector
    (d)   Receptor

(4)

12. Present, in a table, 5 different endocrine glands, the hormone they produce and their functions.

(5)

13. The table below represents approximate numbers of people with Type 2 diabetes in the UK.

Age (years)	Number of People
0-9	100
10-19	900
20-29	9200
30-39	50000
40-49	210000
50-59	480000
60-69	720000
70-79	680000
80 and above	350000

    (a)   Using the information in the table, draw a line graph to show these results.

(4)

    (b)   Give a reason why the numbers increase as age increases.

(1)

    (c)   Give a reason why the numbers begin to fall after the age of 70.

(1)

Total - 45

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