

- 8 What is transported by red blood cells? **A** Antibodies
- B** Glucose **C** Hormones **D** Oxygen

Your answer

[1]

- 9 Which blood vessel transports blood from the lungs to the heart?
- A** Aorta
- B** Pulmonary artery **C** Pulmonary vein **D** Vena cava

Your answer

[1]

- 10 Which diagram shows a red blood cell?



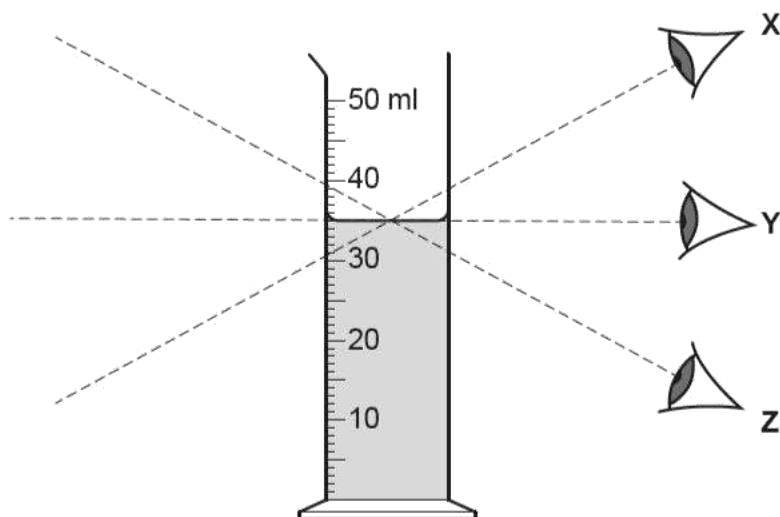
Your answer

[1]

- (f) A student records some data on the volume of urine produced by different athletes after the race.

Each athlete's urine is collected in a different measuring cylinder.

The diagram shows three eye positions where the student could view the level of the urine to measure the volume produced by a particular athlete.



Complete these sentences.

Put a ring around each correct option.

The student should always view the level of liquid from position X / Y / Z.

Viewing the liquid from different positions for the different athletes would introduce
sampling / random / systematic error into the measurement.

[2]

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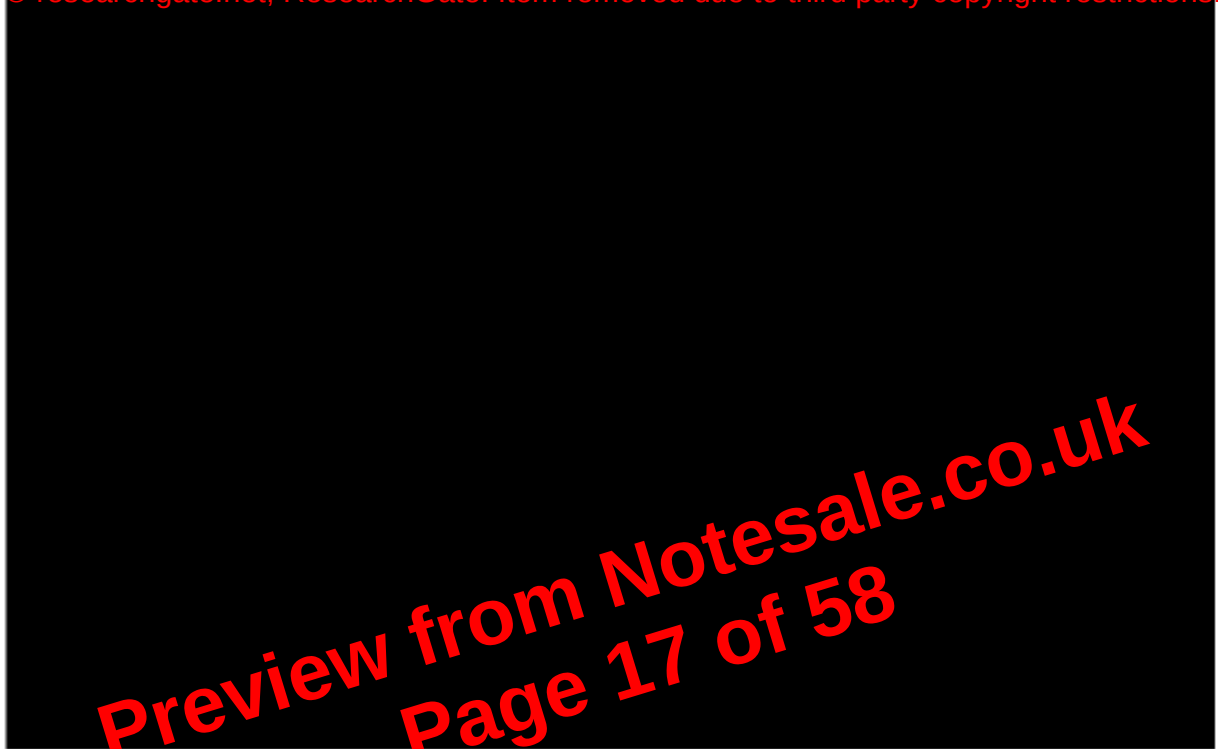
19 The diagram shows the sequence of events that occurs during a reflex arc.

(a) Complete the reflex arc diagram.

Use the words from the list.

effector	motor neurone	receptor	relay neurone
sensory neurone	stimulus	synapse	

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[5]

21 Some people have a condition called varicose veins in their legs.

The veins swell up because the valves are not working properly.

(a) What is the role of the valves in veins?

.....
 [1]

(b) Varicose veins are more common in pregnant females.

During pregnancy, the baby can push on the main veins bringing blood back from the mother's legs.

Give **one** reason why this could lead to varicose veins in the legs.

..... [1]

(c) The data in **Table 21.1** shows the results from a study on varicose veins.

Table 21.1

Age group	Number of people with varicose veins	Percentage of people with varicose veins who are male (%)
< 25	1256	16.0
25–29	2403	35.5
30–34	4304	26.5
35–39	5537	27.7
40–44	5630	29.6
45–49	5713	34.5
50–54	5297	37.9
55–59	4625	41.6
60–64	3400	46.1
65–69	2271	40.6
70+	3438	33.3

(i) Calculate the number of **males** in the study with varicose veins who were younger than 25 years old.

Number of males = [2]

MARKING INSTRUCTIONS**PREPARATION FOR MARKING****RM ASSESSOR**

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *RM Assessor Online Training*; *OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are available in RM Assessor.
3. Log-in to RM Assessor and mark the **required number** of practice responses ("scripts") and the **required number** of standardisation responses.

MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the RM Assessor 50% and 100% (traditional 50% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone, email or via the RM Assessor messaging system.

Short Answer Questions (requiring a more developed response, worth two or more marks)

If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space.)

Longer Answer Questions (requiring a developed response)

Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

6. Always check the pages (and additional sheets if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add the annotation 'SEEN' to confirm that the work has been seen.
7. Award No Response (NR) if:
- there is nothing written in the answer space

Award Zero '0' if:

- anything is written in the answer space and is not worthy of credit (this includes text and symbols).

Team Leaders must confirm the correct use of the NR button with their markers before live marking commences and should check this when reviewing scripts.

8. The RM Assessor **comments box** is used by your Team Leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**

If you have any questions or comments for your Team Leader, use the phone, the RM Assessor messaging system, or email.

9. Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.

Question			Answer	Marks	AO element	Guidance
		(ii)	Idea the nerve impulses do not have far to travel / takes less time for information to reach the brain/CNS ✓	1	2.1	ALLOW idea of response/reactions will be faster/quicker/take less time IGNORE reflexes IGNORE reference to speed of nerve impulses/electrical signals IGNORE send information from brain to eye

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Question	Answer	Marks	AO element	Guidance
20 (a)	Please refer to the marking instructions on page 4 of this mark scheme for guidance on how to mark this question. Level 3 (5–6 marks) Explanation of when pregnancy is most likely to occur. AND Explanation of when pregnancy could possibly occur using the information AND Justified using detailed information provided by the doctor, graph and scientific knowledge included. <i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.</i> Level 2 (3–4 marks) Explanation of when pregnancy is most likely to occur. OR Explanation of when pregnancy could possibly occur. AND Justified using some information provided by at least two from: doctor, graph and scientific knowledge <i>There is a line of reasoning presented with some structure. The information presented is relevant and supported by some evidence.</i> Level 1 (1–2 marks) Basic explanation of when pregnancy is most likely to occur OR Basic explanation of when pregnancy could possibly occur.	6	2 x 1.1 1 x 3.1a 3 x 3.2a	AO1.1 Demonstrates knowledge and understanding of scientific ideas to explain hormonal control of ovulation. • Ovulation is the release of the egg (from the ovary) • egg is released/ovulate when the hormone is high/middle of the cycle • LH is the hormone • LH stimulates ovulation AO3.1a Interprets information from the graph to explain when ovulation occurs • states that the hormone/LH is highest on day 13 • hormone/LH increases /peaks during middle of the cycle • ovulation/egg released on day 13 • accept annotation from the graph to demonstrate when hormones are increasing/middle of the cycle/peaks AO3.2a Makes judgements on when sex could result/is most likely to result in pregnancy. most likely get pregnant: • have sex around day 13 (allow range 11-14)/middle of the cycle (due to ovulation)