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Teacher note: *The following Consolidation Exercises have been extracted from past examination papers to assist you to assess the Learners. The consolidation exercises will also assist the Learners with exam technique and time allocation. Please adhere strictly to the time allocations for each question. Please ensure that the Learners mark their answers accurately and that they write in all the corrections. We suggest that the Teacher writes the answers out on the board to make sure that there are no errors when the Learners write down the answers when doing corrections. Be very clear on the mark allocations please.*

To the Learner:

When answering questions in an exercise, test or exam:

- Read the question first and underline the operative words so that you are clear about what is being asked of you.
- Take careful note of the mark allocation, as this will guide you to the number of facts that you need to write. Do not waste time writing 5 facts when the examiner only asked for 2. They will only mark the 1st two answers.
- Answer the question as if you are answering someone whom you like, is intelligent but knows nothing about Life Science – then you will not leave anything out.
- Please note: an examiner will never ask 2 questions with the same answer. If you have written the same answer then one of them is definitely wrong. Please re-read each of the questions and you will see that each one requires a different answer.
- When you are asked to write your 'view' or 'belief' or 'what do you think….' Then only write one type of view. For example: What is your view on abortion? Here you must be either pro-abortion or anti-abortion. You must not write about both views. You must take a stance on one view.
- When you are asked to debate something – then you are required to look at the issue from both sides and you will be expected to provide both sides for marks.
- If you are asked to 'tabulate' – then you must answer in the form of a table. You will be penalized if your points are not listed in a table format.
- When you are asked to compare two things, then rather use the table format. This way you will remember to write equally about both of the factors.

When answering questions with diagrams:

- Study the diagram and write missing labels in on the diagram itself FIRST.
- Now read through the questions and answer each one.
- If you do not know the answer, then write the number on your answer page, look at the mark allocation and leave enough lines to write the answer in later, i.e.: if the mark allocation is 2, then leave two lines open.

Graphs and Piecharts:

- Make sure that you know the difference between a line graph, Bar graph, Histogram and a Piechart.
- Make sure that you practice the skill of graphing and representing data from a table as a graph.
- Make sure that you are able to read information from a graph accurately. Use a ruler and draw lines on the graph – through the X and Y axis so that your readings are accurate.

Calculations:

- You will be expected to do calculations in a test and exam.
- Make sure that you take a calculator in with you.
- Make sure that you understand how to calculate the average, the difference between and percentage.
- Generally, the examiner will ask you to show your calculations. You must write out your calculation step by step otherwise you will only be awarded a mark for the answer – if it is correct.

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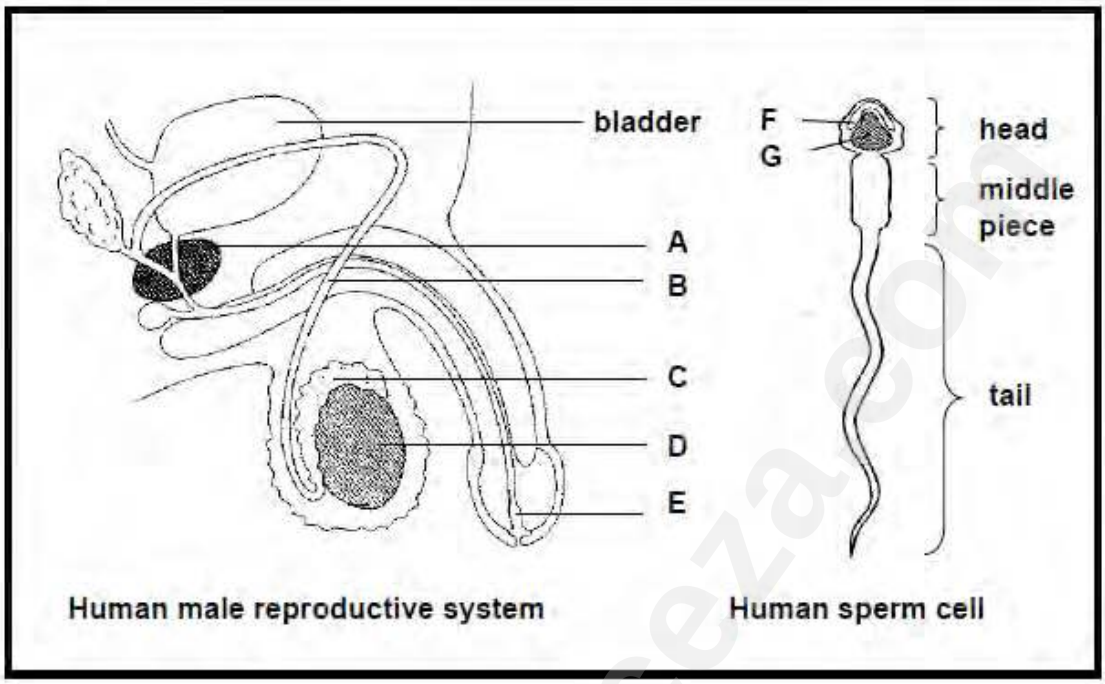
Exercise 1 : - *15 minutes to answer the questions + 10 minutes to go over answer.*

Study the diagrams below and answer the questions that follow.



1.1. Provide labels for A, B, E and G. (4)
1.2. State ONE function each of C and F, respectively. (2)
1.3. State the LETTER and NAME of the part where sperm are produced. (2)
1.4. Explain why it is necessary for part D to 'hang outside' the body of the male. (2)
1.5. Name the following:
(a) The cells that secrete a male sex hormone (1)
(b) The hormone that stimulates the development of secondary sexual characteristics in males (1)
1.6. During a vasectomy, part B is surgically cut.
(a) Explain how this procedure will act as a method of contraception. (2)
(b) Will it be possible for a man who is HIV positive to pass the HI virus to another person after he undergoes a vasectomy? (1)
(c) Explain your answer to QUESTION 6 (b). (2)

(Taken from DoE/November 2009)

Answer:

1.1. A - prostate gland✓
B - vas deferens / sperm duct✓
E - urethra✓
G - nucleus✓ (4)

1.2. C - Stores sperms temporarily✓/sperms mature here
(Mark first ONE only)

F - Contain enzymes to break down the (cell) membrane of the egg cell✓
(Mark first ONE only) (2)

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1.3. D✓ testis ✓/seminiferous tubules (2)

1.4. To keep the testes at a temperature that is (about 3 °C) lower than body temperature✓
A lower temperature is necessary for the production of healthy sperm✓/so that the sperms can survive (2)

1.5. (a) Interstitial cells✓/Cells of Leydig (1)

(b) Testosterone✓ (1)

1.6. (a) Part B/vas deferens will no longer allow✓ sperms to pass to urethra and into the female
and hence no fertilisation✓ results (2)

(b) Yes✓ (1)

(c) HI virus is carried in body fluids✓/ saliva/blood
can still infect a person through open wounds✓/blood transfusion
OR
Seminal fluids✓ will still be produced
and can infect a person during sexual intercourse✓ (2)

Exercise 1.3: - 5 *minutes to answer the questions + 2 minutes to go over answer.*
Choose an item from COLUMN II that matches a statement in COLUMN I. Write only the letter (A – H) next to the question number (1.3.1 – 1.3.5) in the ANSWER BOOK, for example 1.3.6 J.
(Taken from DoE Feb/March 2009) **[5]**

COLUMN I		COLUMN II	
1.3.1	The tube leading from the testes to the urethra	A	syphilis
1.3.2	Sexually transmitted disease	B	cells of Sertoli
1.3.3	Surgical method of contraception in males	C	vas deferens
1.3.4	Plays a role in the nutrition of human spermatozoa	D	diploid
1.3.5	The chromosome number in human somatic cells	E	malaria
		F	Fallopian tube
		G	mastectomy
		H	vasectomy

Answer:
1.3.1 C √
1.3.2 A √
1.3.3 H √
1.3.4 B √
1.3.5 D √ (5)

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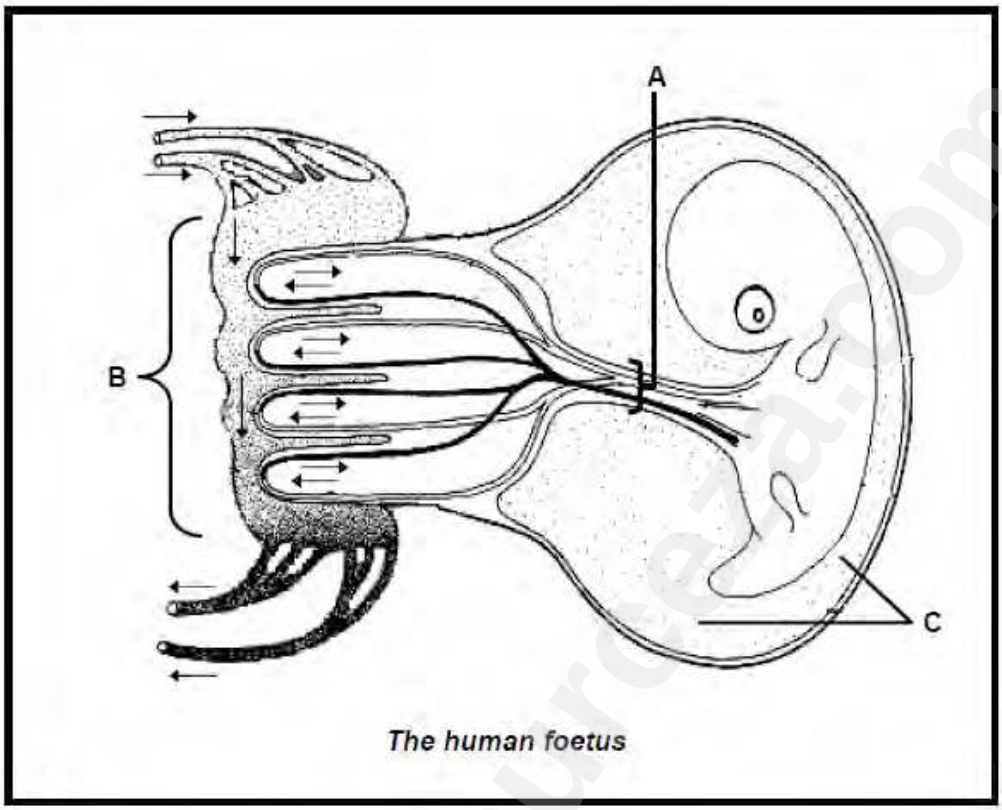
Exercise 2: - *8 minutes to answer the questions + 6 minutes to go over answer.*

Study the diagram below and answer the questions that follow:



The human foetus

2.1	Provide labels for A and B.	(2)
2.2	Explain ONE way in which the part labelled B is structurally adapted for its function.	(2)
2.3	Name TWO functions of the fluid found at C.	(2)
2.4	Name the condition that might occur in the foetus if the mother consumes too much alcohol during the pregnancy.	(1)
2.5	State what effect the condition named in QUESTION 4 would have on the child that is born?	(1)

(Taken from DoE Feb/March 2009)

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Answer:

2.1 A - Umbilical cord √
B – Placenta √ (2)

2.2 - Has folds √ /villi to enlarge the surface area √
- Enriched with blood vessels for transport of gases √ /nutrients/ waste products
- Selective permeable membranes √ to promote diffusion of gases √ / substances
- Contains blood sinuses √ to bring blood of mother in close association with that of foetus √
- interdigitated √ to anchor foetus √ (***Mark first ONE only)*** any 1 x 2 (2)

2.3 - acts as a shock absorber √ /prevents mechanical damage
- prevent great variation in temperature √
- allows for movement of the foetus √
- passes out before birth to lubricate the birth canal √
(***Mark first TWO only)*** any (2)

2.4 Foetal alcohol syndrome √ (FAS)

2.5 - Causes - mental retardation √
- slow growth √
- abnormalities of skull and face √
- organ malfunction √ any (1)

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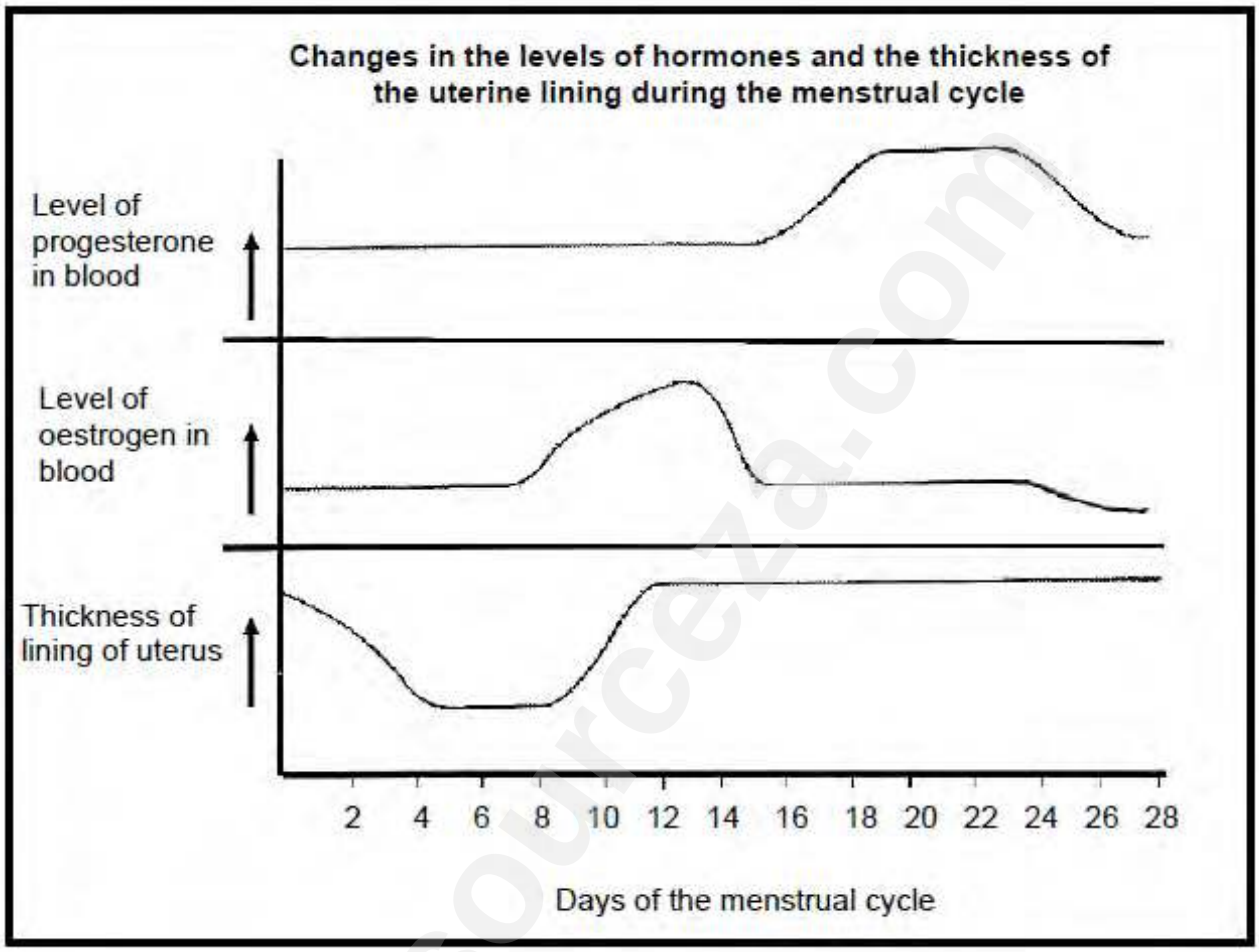
Exercise 3: - *8 minutes to answer the questions + 6 minutes to go over answer.*

Study the graph below and answer the questions that follow.



3.1. What is *menstruation*? (2)
3.2. Select the days on which menstruation occurs from those given below:
Days 0 – 5
Days 5 – 12
Days 9 – 16
Days 24 – 28
3.3. Using the graph above, describe the changes in the hormone levels that took place before the breakdown of the uterine lining. (2)
3.4. What is the effect on the uterine lining when the level of oestrogen increases? (2)
3.5. Why is it important that a high level of progesterone is maintained during pregnancy? (2)
(Taken from DoE /November 2008)

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Answer:

3.1. The breakdown /discharge of the lining of the endometrium of the uterus √ which causes bleeding / blood √ (2)
3.2. From day 0 – 5 √ (1)
3.3. A decrease √ √ /lowering / drop in the level of progesterone and oestrogen directly before menstruation (2)
3.4. Uterus lining becomes thicker √ √ / more vascular/ more glandular (2)
3.5. To prevent the breakdown of the uterine lining √ to prevent spontaneous abortion (miscarriage) √ /retain the foetus/ prevent premature labour (2)

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