

## SECTION B

Answer ALL questions in this section.

Write your answers in the spaces provided at the end of each question

5. Figure 5 shows part of the human female reproductive system, and Figure 6 shows part of the human male reproductive system.

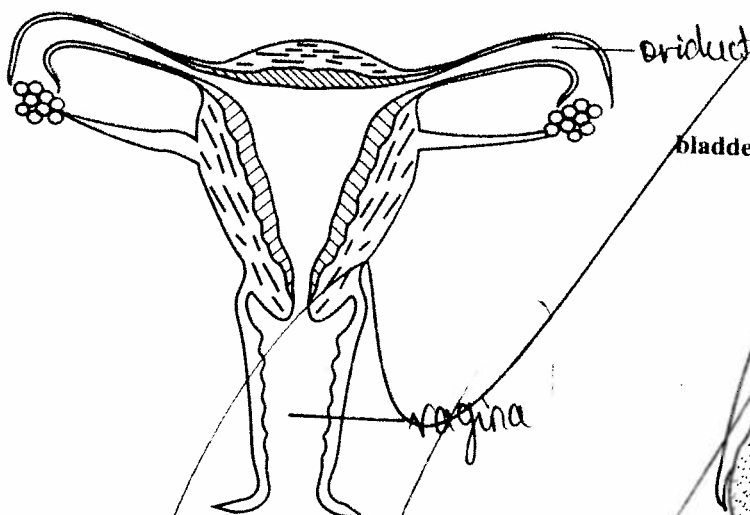


Figure 5. Diagram of part of the human female reproductive system

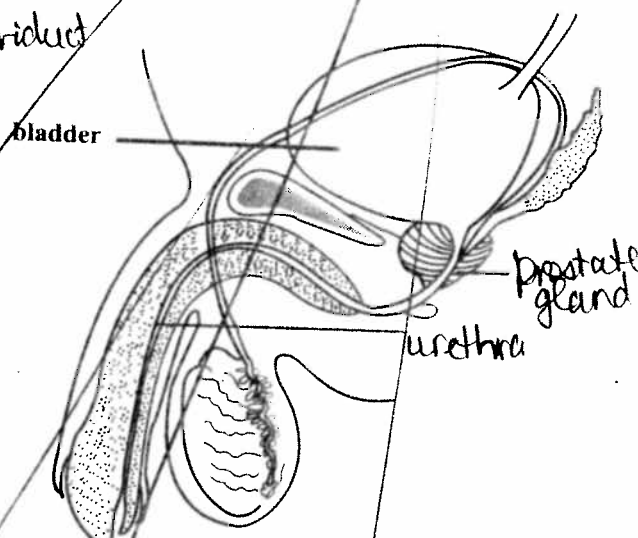


Figure 6. Diagram of part of the human male reproductive system

- (a) (i) Label the oviduct and vagina on Figure 5.
- (ii) Label the prostate gland and the urethra on Figure 6.
- (iii) Concerning the passage of gametes and urine, state ONE major difference between the male and female reproductive systems. ( 6 marks)
- (b) Vishana is nine months pregnant and has been told that it is almost time for her to deliver her baby. Describe the THREE stages of the birth process. ( 5 marks)
- (c) Vishana is fearful of becoming pregnant again too soon but is undecided about using contraceptives because she believes her baby may be harmed.
- (i) Suggest ONE natural method of birth control and give ONE disadvantage of using this method.
- (ii) State TWO benefits of family planning to a country. ( 4 marks)

Total 15 marks

Write your answer to Question 5 here.

- a) iii) Within the female reproductive system the transportation of the gametes (ova) and the urine are handled by two separate structures. The oviduct transports the ova and the urethra transports the urine. However, in the male reproductive system, the same structure transports both gametes (spermatozoa) and urine. The semen is transported by the sperm duct and then joins with the urethra, which is the same structure that also carries the urine.
- b) The first stage of the birth process begins with the breaking of the amniotic sac by the contractions of the uterus. This stage is ~~also~~ signalled by the expulsion of the amniotic fluid generally known as "breaking of the water". The ~~pituitary gland~~ <sup>hypothalamus</sup> of the brain is not stimulated and initiates the secretion of oxytocin which aids in the expansion of the cervix for the passage of the baby. This stimulation to secrete oxytocin is a positive feedback mechanism. The second stage, is one in which the baby is expelled from the uterus, head first, through the vaginal canal and cervix. The third and final stage is when the baby's umbilical cord is cut and tied to form the navel and the ~~placenta~~ <sup>placenta</sup> and membrane ~~are removed from the mother~~ <sup>are known as the 'afterbirth' and are removed from the mother</sup>.
- d) i) One method of natural birth control is the 'rhythm method'. This method of birth control has the great disadvantage of being dependent on a woman's menstrual cycle. The method involves having sexual intercourse at 'safe periods'. This method is highly flawed because the menstrual cycle of women are sometimes ~~not~~ unpredictable and irregular, therefore the 'safe periods' for intercourse may ~~be~~ alter on various months thus increasing the chance of unwanted pregnancies.

Write your answer to Question 5 here.

c) ii) Family planning involves planning the number of and timing of children in the family. It can be mutually beneficial to the families who practice this method ~~of~~ ~~and~~ and the countries in which they reside. The country will benefit by having a skilled laborer. This will be achieved because the parents have planned the number of children they will have and will also be able to spend time to better themselves educationally by focusing on their careers. The country can also benefit from family planning because they will have better socially and emotionally developed children because the parents have planned for their children and will be better able to provide for their social and emotional needs.

## **Human and Social Biology**

### **Paper 02**

#### Question 5

#### Table 5

The overall quality of this candidates' response was of a high standard. The candidates' response flowed in a logical manner which showed a very good grasp and understanding of the topic. The candidate used a systematic approach and there was continuity of the answers as each section flowed seamless into the next. The response was allocated the maximum amount of marks which is fifteen (15).

The candidate gained total marks for knowledge and comprehension. They were able to identify and label the oviduct and vagina for the female reproductive system. Additionally, they were able to identify and label the prostate gland and urethra for the male reproductive system. The candidate also gained full marks for the benefits of family planning to a country because it was discussed in length. However, this response might have been improved if the candidate's response included benefits of family planning such as population control and that the government would be better able to provide necessary services if the population is smaller.

The candidate showed excellent use of knowledge in stating one major difference between the male and female reproductive systems. The main difference between the systems was that the male reproductive system has one passage for both gametes and urine, while the female has two separate passages. The candidate gained full marks for Section B because they described in detail the three stages of birth. They did not change the sequence of the birth process.

In Section C (ii), the candidate suggested the rhythm as a natural method of birth control and commented on the disadvantage of using the rhythm method.