



INDIAN SCHOOL AL WADI AL KABIR

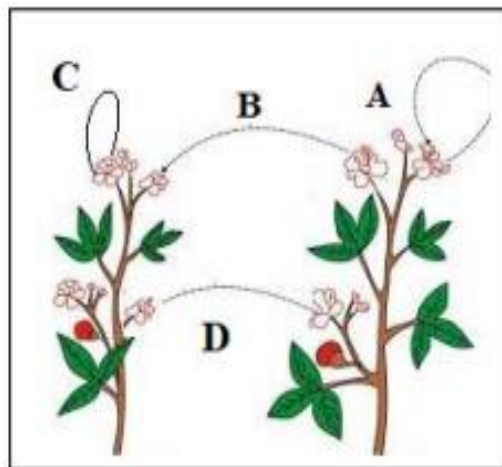


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| CLASS: X | DEPARTMENT OF SCIENCE 2022 – 2023 SUBJECT: BIOLOGY | DATE OF SUBMISSION 13:10:2022 |
| WORKSHEET No: 5 WITH ANSWERS | CHAPTER: HOW DO ORGANISMS REPRODUCE? (SEXUAL REPRODUCTION) | Note: A4 FILE FORMAT |
| NAME OF THE STUDENT: | CLASS & SEC: X ____ | |

OJECTIVE TYPE QUESTIONS

MULTIPLE CHOICE QUESTIONS

- Which of the following is not a part of male reproductive system?
(a) Vas deferens (b) Seminal vesicle (c) Oviduct (d) Prostate gland
- Ovule contains
(a) carpel (b) petal (c) egg cell (d) Pollen grain
- The correct sequence of male reproductive system for the passage of sperms is
(a) testis → sperm duct → urethra (b) testis → urethra → ureter
(c) testis → urethra → sperm duct (d) testis → ureter → urethra
- The diagram shown below depicts pollination. Choose the options that will show a maximum variation in the offspring.



- (a) A, B and C (b) B and D (c) B, C and D (d) A and C

Assertion-Reason

Following questions consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) Both Assertion (A) and Reason(R) are false

5. Assertion (A): At puberty, in boys, voice begins to crack and thick hair grows on their face.

Reason (R): At puberty, there is a decreased secretion of testosterone in boys

6. Assertion (A): Surgical methods are the most effective methods of contraception.

Reason (R): Surgical method blocks the transport of gametes and hence prevents fertilisation.

7. Assertion (A): HIV is a bacterial infection.

Reason (R): It is spread through sharing of food and water.

Source-based/case-based

8. Methods of contraception include oral contraceptive pills, Intra uterine devices, condoms, male and female sterilization methods. These methods have different mechanisms of action and effectiveness in preventing unintended pregnancy.

- (a) Classify the different contraceptive methods studied by you?
- (b) Which contraception methods mentioned above are used only by females?
- (c) Which reproductive organ is cut and tied during male and female sterilization methods?

OR

Name the Intra uterine devices studied? How do they prevent unintended pregnancy?

Very Short questions carrying 02 marks each. Answers to these questions should in the range of 30 to 50 words.:

- 9. List two important functions of gonads.
- 10. How does a human foetus derives its nutrition?
- 11. Why are testes and ovary called primary sex organs?
- 12. Differentiate between self-pollination and cross-pollination.
- 13. Mention the name of two plants each having unisexual and bisexual flowers.

Short Answer type questions carrying 03 marks each. Answers to these questions should in the range of 50 to 80 words:

- 14. List three differences between pollination and fertilisation.

15. What does HIV stand for? Is AIDS an infectious disease? List any four modes of spreading AIDS.

16. (a) List four reasons for adopting contraceptive methods.

(b) If a woman is using Copper-T, will it help in protecting her from sexually transmitted diseases? Why?

17. (a) Explain the terms:

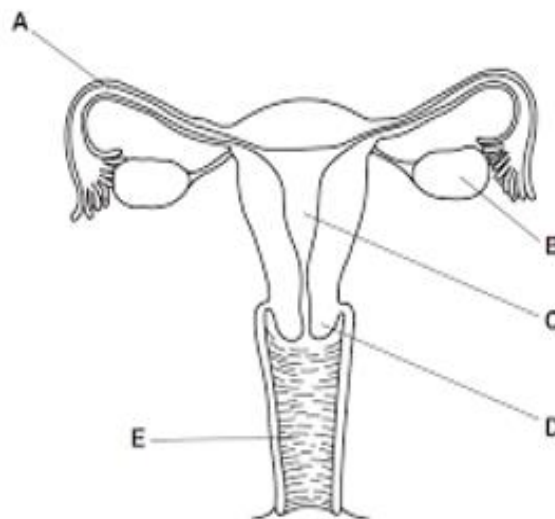
(i) Implantation (ii) Placenta

(b) What is the average duration of human pregnancy?

Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.

18. Describe in brief the role of (i) testis, (ii) seminal vesicle, (iii) vas deferens (iv) Penis in human male reproductive system.

19. (a) Name the parts labelled A, B, C, D and E.



(b) Where do the following functions occur?

(i) Production of an egg

(ii) Fertilisation

(iii) Implantation of zygote.

(c) What happens to the lining of uterus:

(i) before release of a fertilised egg?

(ii) if no fertilisation occurs?

(20) (a) Draw a diagram showing germination of pollen on stigma of a flower.

(b) Label pollen grain, male germ cells, pollen tube and female germ-cell in the above diagram.

(c) How is zygote formed?

(21) State in brief the changes that take place in a fertilised egg (zygote) till birth of the child in the child in the human female reproductive system. What is the site of fertilisation in human female reproductive?

Board based questions:

22. Name the part or organ of the female reproductive system (2 marks)

(a) where contraception devices such as loop or copper-T are placed to prevent pregnancy.

(b) which is blocked to prevent the transfer of eggs.

(c) where formation of germ cells as ova takes place.

(d) from where the embryo gets nutrition from the mother's blood.

23. (a) In the given diagram name the parts where (i) pollen grains produced, and (ii) pollen grains are transferred.



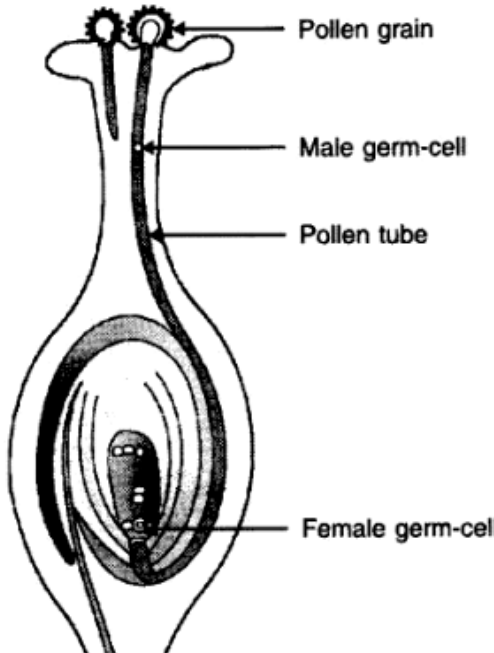
(b) What happens to ovule and ovary after fertilisation?

24. Suggest any two contraceptive methods to control the size of human population and explain them.

ANSWER KEY

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| 1. | (c) Oviduct |
| 2. | (c) egg cell |
| 3. | (a) testis → sperm duct → urethra |
| 4. | (b) B and D |
| 5. | c. Assertion (A) is true but Reason(R) is false |
| 6. | a. Assertion (A) and Reason(R) true and Reason(R) is the correct explanation of Assertion (A) |
| 7. | d. Both Assertion (A) and Reason(R) are false |
| 8. | (a) oral contraceptive pills, Intra uterine devices, condoms, male and female sterilization methods. |

| | (b) oral contraceptive pills, Intra uterine devices (c) Male – Vase deference, Female – Fallopian Tube | | | | | | | | | | | | |
|---|---|--|-------------------|--|---|--|--|---|---|--|---|---|--|
| 9. | Functions of gonads – production of germ cells and sex hormones | | | | | | | | | | | | |
| 10. | The embryo gets nutrition from the mother’s blood with the help of a special tissue called placenta. This is a disc which is embedded in the uterine wall. It contains villi on the embryo’s side of the tissue. On the mother’s side are blood spaces, which surround the villi. This provides a large surface area for glucose and oxygen to pass from the mother to the embryo. The developing embryo will also generate waste substances which can be removed by transferring them into the mother’s blood through the placenta. | | | | | | | | | | | | |
| 11. | Because they produce germ cells and sex hormones | | | | | | | | | | | | |
| 12. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Self-Pollination</th> <th style="width: 50%; text-align: center;">Cross Pollination</th> </tr> </thead> <tbody> <tr> <td>The pollen grains from a flower are carried to the stigma of the same flower</td> <td>The pollen grains from a flower are carried to the stigma of the different flower on other plant.</td> </tr> <tr> <td>Such flowers do not need any pollinating agent.</td> <td>Such flowers need pollinating agents.</td> </tr> <tr> <td>Self-pollination is less preferable from the genetic point of view since there is no mixing of genes.</td> <td>Cross pollination is more preferable from the genetic point of view since new characters can be produced.</td> </tr> </tbody> </table> | Self-Pollination | Cross Pollination | The pollen grains from a flower are carried to the stigma of the same flower | The pollen grains from a flower are carried to the stigma of the different flower on other plant. | Such flowers do not need any pollinating agent. | Such flowers need pollinating agents. | Self-pollination is less preferable from the genetic point of view since there is no mixing of genes. | Cross pollination is more preferable from the genetic point of view since new characters can be produced. | | | | |
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| 13. | The flower may be unisexual (papaya, watermelon) when it contains either stamens or pistil or bisexual (Hibiscus, mustard) when it contains both stamens and pistil. | | | | | | | | | | | | |
| 14. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 45%; text-align: center;">Pollination</th> <th style="width: 45%; text-align: center;">Fertilization</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>It is transfer of pollen grains from stigma to anther of a flower.</td> <td>It is fusion of male and female gametes.</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Pollination occurs before fertilization.</td> <td>Fertilization occurs only after pollination.</td> </tr> <tr> <td style="text-align: center;">3</td> <td>It carries male gamete producing pollen grains to the female sex organ.</td> <td>It brings about fusion of male and female gametes.</td> </tr> </tbody> </table> | | Pollination | Fertilization | 1 | It is transfer of pollen grains from stigma to anther of a flower. | It is fusion of male and female gametes. | 2 | Pollination occurs before fertilization. | Fertilization occurs only after pollination. | 3 | It carries male gamete producing pollen grains to the female sex organ. | It brings about fusion of male and female gametes. |
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| 15. | Human immunodeficiency viruses, Yes, contaminated needles, sexual contact, drugs, blood transfusion, | | | | | | | | | | | | |
| 16. | <p>a) i. To prevent unwanted pregnancies. ii. To control population rise or birth rate. iii. To prevent the transfer of sexually transmitted diseases. iv. To space the children, family planning</p> <p>b) No, copper T is placed in the uterus where it only prevents implantation of the zygote or fertilised egg.</p> | | | | | | | | | | | | |
| 17. | <p>(i) Implantation: After the egg is fertilised, the zygote is formed. The zygote travels down the uterus in the female body and gets attached to its wall.</p> <p>(ii) Placenta: The placenta provides the connection between the foetus and uterus of the mother. It aids in the exchange of nutrients, gases, hormones and waste products</p> | | | | | | | | | | | | |

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| | between the mother and foetus. In other words, the placenta provides nutrition and a means of excretion for the foetus. |
| 18. | (i) testis - produce sex hormone testosterone and male gametes sperms (ii) seminal vesicle -produces secretion which is responsible for nutrition and transportation of sperms. (iii) vas deferens - The vas deferens transports mature sperm to the urethra in preparation for ejaculation. (iv) It carries either urine or semen at a time. It deposits sperm into vagina. |
| 19. | (a) A Fallopian tube, B Ovary, C Uterus, D Cervix, E Vagina (b) (i) Ovary, (ii) Fallopian tube, (iii) Uterus (c) i. Before release of a fertilised egg - The inner lining of the uterus becomes thick and soft with lot of blood capillaries ii. the lining of the uterus slowly breaks and comes out through the vagina as blood and mucous. This cycle takes place roughly every month and is known as menstruation. It usually lasts for about two to eight days. |
| 20. | a) and b)  <p>(c) Zygote is formed when male gamete, Le. sperm fuses with female gamete, i.e. ovum.</p> |
| 21. | (i) Zygote/ fertilized starts dividing. (ii) Implantation of zygote in the inner uterine wall. (iii) Embryo starts growing with the help of the placenta which results in the development of the child. (iv) Birth of a child as a result of rhythmic contraction of the muscles in the uterus. Site of fertilisation – Fallopian tube |
| 22. | (a) Uterus (b) Fallopian tube (c) Ovary (d) Placenta |
| 23. | a) i. a – Anther, c - Stigma |

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| | b) After fertilisation – Ovule -seed, Ovary - Fruit |
| 24. | Methods of contraception (i) Barrier method - Condom/ Diaphragm , to prevent the meeting of sperms and ova. (ii) Chemical method - Oral pills: Changes the hormonal balance of the female partner so that the eggs are not released. |

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