	INDIAN SCHOOL AL WADI AL KABIR	

CLASS: X	**DEPARTMENT OF SCIENCE 2025 – 2026** **SUBJECT: BIOLOGY**	**DATE: 15.10.2025**
WORKSHEET:5	**TOPIC: HOW DO ORGANISMS REPRODUCE?** **PART -II (SEXUAL REPRODUCTION)**	**NOTE: A4 FILE FORMAT**
CLASS & SEC:	**NAME OF THE STUDENT:**	**ROLL NO.**

I. OBJECTIVE TYPE QUESTIONS:

1. The correct/true statement(s) for a bisexual flower is/are:
   (i) They possess both stamen and pistil.
   (ii) They possess either stamen or pistil.
   (iii) They exhibit either self-pollination or cross-pollination.
   (iv) They cannot produce fruits on their own.
   (a) (i) only
   (b) (iv) only
   (c) (i) and (iii)
   (d) (i) and (iv)

2. The number of chromosomes in a cell division is halved. This kind of cell division is observed in:
   (a) Only testis
   (b) Only ovary
   (c) Ovary and testis both
   (d) All cells of the body

3. D N A copying is necessary during reproduction because:
(a) It leads to the transmission of characters from parents to off springs
(b) It leads to variation
(c) It helps in survival of the species over time
(d) All of these.

4. Which of the following is a sexually transmitted viral disease?
(i) Gonorrhoea
(ii) Syphilis
(iii) Warts

(iv) HIV-AIDS

(a) (i), (iii) and (iv)
(b) (ii) and (iv)
(c) (iii) and (iv)
(d) (i) and (ii)

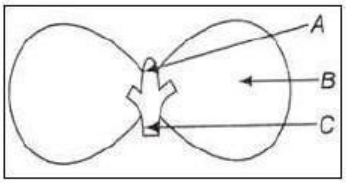
5. Which of the following is the correct sequence regarding sexual reproduction in a flowering plant?
(a) Pollination, fertilisation, seedling, embryo
(b) Seedling, embryo, fertilisation, pollination
(c) Pollination, fertilisation, embryo, seedling
(d) Embryo, seedling, pollination, fertilisation

6. The embryo in humans gets nutrition from the mother's blood with the help of a special tissue called:
(a) Placenta
(b) Villi
(c) Uterus
(d) Womb

7. In human males, the testes lie in the scrotum, because it helps in the:
(a) Secretion of fluid
(b) Formation of sperms
(c) Easy transfer of gametes
(d) Secretion of estrogen

8. Which of the following is the correct sequence of parts of female reproductive system of flowering plants in terms of their placement?
(a) Stigma, ovule, ovary, style
(b) Ovule, stigma, ovary, style
(c) Style, stigma, ovule, ovary
(d) Stigma, style, ovary, ovule

9. In the below figure, parts A, B and C are:



(a) Cotyledon, plumule and radicle
(b) Plumule, radicle and cotyledon
(c) Plumule, cotyledon and radicle
(d) Radicle, cotyledon and plumule

10. The correct sequence of organs in the male reproductive system for the transport of sperm is:

(a) Testis → vas deferens → urethra
(b) Testis → ureter → urethra
(c) Testis → urethra → ureter
(d) Testis → vas deferens → ureter

For the following questions, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii), and (iv) as given below.

i) Both A and R are true and R is the correct explanation of the assertion.
ii) Both A and R are true but R is not the correct explanation of the assertion.
iii) A is true but R is false.
iv) A is false but R is true

11. Assertion: Offspring produced through sexual reproduction show variations from their parents.
Reason: Sexual reproduction involves the mixing of genetic material from two different individuals.

12. Assertion: At puberty, in boys, voice begins to crack and thick hair grows on their face.
Reason: At puberty, there is a decreased secretion of testosterone in boys.

13. Assertion: For fertilization to occur in a flowering plant, pollination is a necessary prerequisite.
Reason: Pollination brings the male gametes (pollen grains) to the female reproductive part of the flower (stigma).

II. VERY SHORT ANSWER (2M):

14. (a) Name the parts in human body where sperms and eggs are produced.
(b) Why copper - T cannot protect a woman from sexually transmitted diseases?
15. Give reasons for the following:
a) Oral pills help in birth control.
b) Petals of flowers are variously coloured.
16. List two common signs of sexual maturation in boys and girls.
17. (a) Define fertilisation.
(b) What happens to Zygote, Ovule, Ovary, and Stamens after fertilisation in a flowering plant?
18. Give reasons:
(a) The male reproductive organ responsible for formation of germ cells is located outside the abdominal cavity.
(b) The roles of the glands, present along the path of the vas-deferens, are very significant.
19. (a) Trace the path a male gamete takes to fertilise a female gamete after being released from the penis.
(b) State the number of sets of chromosomes present in a zygote.

III. SHORT ANSWER TYPE QUESTIONS: (3M)

20. List three differences between pollination and fertilisation.
21. List two functions each of the following parts of human female reproductive system.
    (a) Ovaries (b) Fallopian tubes (c) Uterus
22. (a) Why has Government of India prohibited prenatal sex determination by law? State its benefits in the long run.
    (b) Unsafe sexual act can lead to various infections. Name two bacterial and two viral infections caused due to unsafe sex.
23. Explain the following methods of contraception giving one example of each.
    (a)Barrier method (b) Chemical method (c) Surgical method

IV. LONG ANSWER TYPE QUESTIONS (5 M):

24. (a) What is placenta? Explain its function in humans
    (b) What happens to the lining of uterus:
    (i) before release of a fertilised egg? (ii) if no fertilisation occurs?

V. CASE STUDY BASED QUESTIONS

25. A young couple, Rohan and Priya, have been thinking about starting a family. They visit a gynaecologist not for a problem, but to proactively learn about the biology of reproduction. Their conversation focuses on understanding the exact moment and location of fertilization and the subsequent journey of the zygote. The doctor illustrates how the uterus is prepared each month for a potential pregnancy and explains the vital role of the placenta, a dedicated structure for nutrient exchange. The gynaecologist stresses that understanding these processes is the foundation for making informed and responsible choices about family planning, rather than leaving things to chance.

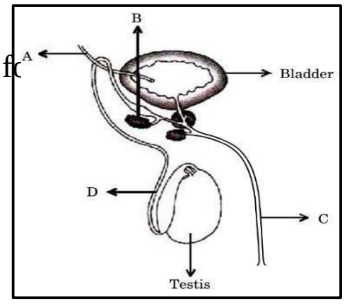
(a) Where does fertilisation typically occur in the female reproductive system, and what happens to the fertilised egg?

(b) Based on the case study and your knowledge, why is it important for couples like Rohan and Priya to be informed about contraceptive methods?

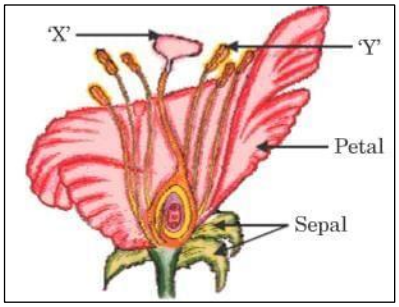
(c) State any two reasons why the knowledge of reproductive health is important fc society.

VI. BOARD BASED QUESTIONS:

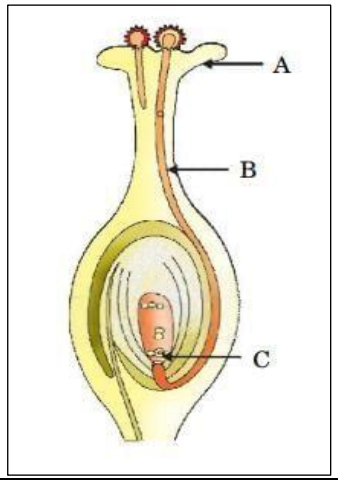
26. Based on the given diagram answer the questions given below:
    (b) Label the parts A, B, C and D.
    (c) Name the hormone secreted by testis and mention its role.
    (d) State the functions of B and C in the process of reproduction.



27. (a) Identify the parts 'X' and 'Y' in the figure given below:
    (b) Name the yellowish coloured structures produced by the part labelled as 'Y'.
    (c) Write the name of the process by which these are transferred to the part labelled as 'X'.
    (d) Explain the process of seed formation in a flowering plant.



28. (a) Identify A, B, and C in the diagram given below and write one function of each.
(b) Differentiate between self-pollination and cross pollination.



	ANSWERS
1.	(c) (i) and (iii)
2.	(c) Ovary and testis both
3.	(d) All of these.
4.	(c) (iii) and (iv)
5.	(c) Pollination, fertilisation, embryo, seedling
6.	(a) Placenta
7.	(b) formation of sperms
8.	(d) Stigma, style, ovary, ovule
9.	(c) Plumule, cotyledon and radicle
10.	(a) Testis → vas deferens → urethra
11.	i) Both A and R are true and R is the correct explanation of the assertion.
12.	iii) A is true but R is false
13.	i) Both A and R are true and R is the correct explanation of the assertion.
	II. VERY SHORT ANSWER (2M):
14.	(a)The egg is produced by ovaries in humans, whereas sperms are produced by testes in humans. Testes generally produce approximately millions of sperms and ovaries produce a single egg in a month. (b) Copper-T is an intra-uterine device which does not allow fertilisation to take place. As it does not provide any barrier against mixing of body fluids from two individuals, therefore, it acts only as a contraceptive method but does provide protection against STDs.
15.	(a) Contraceptive pills (birth control pills) are oestrogen medications that are taken orally. They prevent pregnancy by delaying ovulation and sperm from passing through the cervix.

	(b) Flowers are scented and have bright coloured petals, because of which insects attract towards them and help in the transfer of pollen grains from one flower to another flower.
16.	-Growth of pubic hair and extra hair in the armpits. -Development of oily skin and pimples.
17.	(a) Fertilisation: Fertilisation is the fusion of male (pollen) and female (egg) gametes to form a zygote. (b) Post-Fertilization Changes: Zygote: Develops into an embryo within the seed. Ovule: Transforms into a seed, with the embryo and seed coat. Ovary: Develops into a fruit, enclosing the seeds. Stamens: Wither and fall off, as their role in pollen production is complete.
18.	(a) Testes Location: The testes are in the scrotum outside the body to keep a cooler temperature needed to make sperm. (b) Glands' Role: The prostate gland and seminal vesicles add fluid to sperm, which helps them move and gives them food for fertilization.
19.	a) Male gamete (sperm) travels in the female reproductive tract after being released. The path which it takes to fertilise the female gamete (egg) is vagina, uterus, fallopian tube where it fuses with the egg cell resulting in the formation of a zygote. b) Zygote has 2 sets of chromosomes.
	III. SHORT ANSWER TYPE QUESTIONS: (3M)
20.	Pollination -Pollination is the transfer of pollen grains from anther to stigma. -Pollination results in fertilisation. -It is an external process. Fertilisation -Fertilisation is the fusion male and female gametes. -Fertilisation results in the production of seed and the development of the embryo within it. -It is an internal process
21.	Ovary: -It is the female sex organ that releases egg every month. -It also produces some hormones such as oestrogen and progesterone. Fallopian tube/Oviduct: -The fertilisation takes place in the oviduct. -The egg is carried to the uterus through the fallopian tube or oviduct. Uterus: -Uterus helps in the implantation and in the growth of the embryo into the foetus. -It provides nutrients to the growing embryo through the placenta.
22.	a) 1. Indiscriminate female foeticide and desire for a male child. 2. Declining female – male sex ratio. b) STD caused by bacteria are -: Gonorrhea and Syphilis STD caused by virus are -: Warts and AIDS (Acquired Immune Deficiency Syndrome)

23.	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. (iii) Surgical method: In this method a small portion of vas deferens in male and the fallopian tube in female is surgically removed or tied. It is called VASECTOMY in males and TUBECTOMY in females.
IV	**LONG ANSWER TYPE QUESTIONS (5 M):**
24.	a) It is a disclike structure embedded in the uterine wall connected to the embryo. It has villi on the embryo's side of the tissue and on the mother's side, it has blood spaces which surround the villi. It provides a large surface area for nutrients (glucose) and oxygen to pass from the mother's side to the embryo and waste substances from the embryo's side to the mother's blood. b) (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.
V.	**CASE STUDY BASED QUESTIONS:**
25.	(a) Fertilisation typically occurs in the fallopian tube. The fertilised egg, or zygote, then begins to divide and travels down to the uterus, where it gets implanted in the uterine wall. (b) t is important because the sexual act always has the potential to lead to pregnancy. Being informed allows them to make responsible decisions about family planning and choose effective methods to avoid unwanted pregnancy, which is crucial for the health of both the woman and the couple's overall well-being. (c) **For individuals:** It helps in making informed choices about family planning, such as using contraception to prevent unwanted pregnancies and sexually transmitted diseases (STDs). **For society:** Awareness of reproductive health and family planning can help in controlling population growth, leading to better social and economic well-being.
VI	**BOARD QUESTIONS:**
26.	a) A-Ureter B- Seminal Vesicle C-Urethra D- Vas deferens (b) Testosterone -Role - Regulates the formation of sperms - Changes in appearance of boys at the time of puberty. (c) Function of 'B'-seminal vesicle - Providing nutrition and transportation to sperms. Function of 'C'- Urethra-Serves as a common passage to both sperms and urine.
27.	(a) Parts: X = Stigma, Y = Anther (b) Yellowish Structures: Pollen grains (c) Process: Pollination (d) Seed Formation: After pollination, pollen grains on the stigma germinate, forming a pollen tube that grows through the style to the ovary. The male gamete fuses with the egg in

the ovule (fertilization), forming a zygote. The ovule develops into a seed, with the zygote becoming the embryo, the ovule wall forming the seed coat, and the ovary developing into the fruit.

28. (a) A- Stigma- receives pollen grains.
B- Pollen tube – transfers male gametes.
C- The female germ cell fuses with the male germ cell during fertilization to form a zygote.

(b)

Feature	Self-pollination	Cross-pollination
Transfer of pollen	From the anther to the stigma of the same flower or another flower on the same plant.	From the anther of a flower on one plant to the stigma of a flower on a different plant of the same species.
Agents required	Does not necessarily require external agents like wind, water, or insects.	Depends on external agents, such as wind, water, or insects, to carry the pollen.
Genetic variation	Results in low genetic variation, as the offspring are genetically similar to the parent plant.	Leads to greater genetic variation because the offspring are produced by the fusion of gametes from two different parent plants.
Outcome	Ensures that the genetic traits of the parent are preserved in the offspring.	Introduces new genetic combinations, which can enhance the adaptability of the species.
Example	Pea plant.	Maize.

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