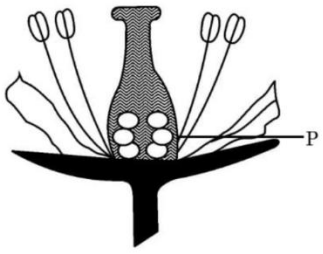
	INDIAN SCHOOL AL WADI AL KABIR	
CLASS: X	**DEPARTMENT OF SCIENCE 2026 – 2027** **SUBJECT: BIOLOGY**	**DATE: 3.10.2026**
WORKSHEET:5	**TOPIC: HOW DO ORGANISMS REPRODUCE?** **PART -II (SEXUAL REPRODUCTION)**	**NOTE: A4 FILE FORMAT**
CLASS & SEC:	**NAME OF THE STUDENT:**	**ROLL NO.**

I. OBJECTIVE TYPE QUESTIONS:

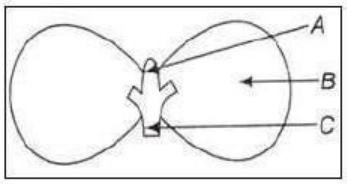
1. Part(s) of a flower which attracts insects for pollination is (are): (2024)
   A. Petals and sepals
   B. Anther and stigma
   C. Petals only
   D. Sepals only
2. The plants that can be raised by the method of vegetative propagation are: (2024)
   A. Sugarcane, roses, grapes
   B. Sugarcane, mustard, potato
   C. Banana, orange, mustard
   D. Papaya, mustard, potato
3. The incorrect statement about the placenta is:
   A. It is a disc embedded in the uterine wall
   B. It contains villi on the embryo's side of the tissue
   C. It has a very small surface area for glucose and oxygen to pass from mother to the embryo
   D. The embryo gets nutrition from the mother's blood through it
4. If the part 'P' of the flower is removed, which of the following processes will not take place?



   A. Formation of pollens
   B. Formation of flower
   C. Formation of fruit
   D. Formation of seed
5. Chromosomes: (2024)
   (i) Carry hereditary information from parents to the next generation

(ii) Are thread-like structures located inside the nucleus of an animal cell
(iii) Always exist in pairs in human reproductive cells
(iv) Are involved in the process of cell division
A. (i) and (ii)
B. (iii) and (iv)
C. (i), (ii), and (iv)
D. (i) and (iv)

6. In human beings, the implantation of a fertilised egg takes place in which part of the female reproductive system?
A. Oviduct
B. Cervix
C. Uterus
D. Vagina
7. Plants like rose and banana have lost the capacity to produce:
A. Flowers
B. Buds
C. Seeds
D. Fruits
8. 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)
9. In the figure below, 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 fertilisation to occur in a flowering plant, pollination is a prerequisite.
    Reason: Pollination brings the male gametes (pollen grains) to the female reproductive part of the flower (stigma).

II. VERY SHORT ANSWER QUESTIONS (2M):

14. Draw a neat diagram to show germination of pollen on the female reproductive part of the flower. Name and label only the following parts:
    a) The part that receives the pollen grain
    b) The structure that carries the male germ cell to reach the female germ cell
15. 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.
16. (a) Name the parts in the human body where sperm and eggs are produced.
    (b) Why can't copper-T protect a woman from sexually transmitted diseases?
17. List two common signs of sexual maturation in boys and girls.
18. (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):

19. List three differences between pollination and fertilisation.
20. List two functions each of the following parts of the human female reproductive system.
    (a) Ovaries (b) Fallopian tubes (c) Uterus
21. (a) Why has the Government of India prohibited prenatal sex determination by law? State its benefits in the long run.
    (b) Unsafe sexual acts can lead to various infections. Name two bacterial and two viral infections caused by unsafe sex.
22. 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 (5M):

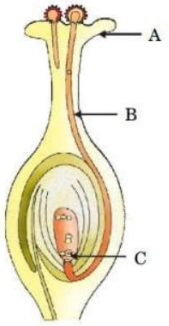
23. a) (i) Name an organ that helps in the formation of male germ cells in humans and also

mention the condition that favours the formation of male germ cells
(ii) In the male reproductive system, write the pathway followed to deliver male cells to the site of fertilisation.
(iii) Mention the main physical feature of the male germ cell that helps it move towards the female germ cell.

b) Radha has three children. She does not want to have more children. Radha visits a nearby hospital to learn the methods to prevent pregnancy.
(i) Mention the name of any two ways other than the surgical methods, following which Radha can avoid unwanted pregnancies.
(ii) Name the surgical methods to prevent pregnancy
(iii) Give one example of sexually transmitted diseases caused by bacteria and viruses.

24. a) (i) Write the functions of the following parts of the human female reproductive system:
    i. Ovary
    ii. Fallopian tube
    iii. Uterus
    (ii) State briefly two contraceptive methods used by human males.

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

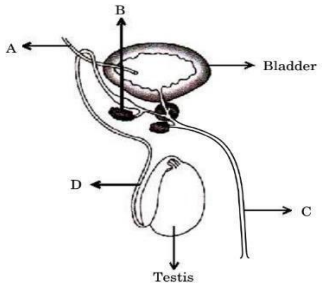


V. CASE STUDY BASED QUESTIONS

25. When a girl is born, the ovaries already contain thousands of immature eggs. On reaching puberty, some of these start maturing. One mature egg is released every month by one of the ovaries. The two oviducts unite into an elastic bag-like structure known as the uterus.
    (a) Write the site of fertilisation in the human female.
    (b) How does the uterus prepare itself to receive and nurture the growing embryo? Explain.
    (c) (i) What happens when the egg is not fertilised?
    OR
    (ii) How does the developing embryo get nutrition from the mother's blood? Explain.

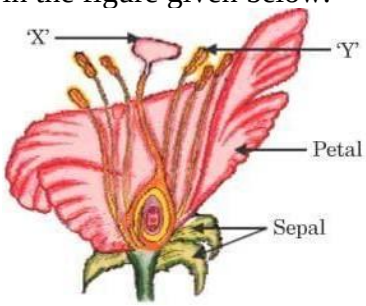
VI. BOARD BASED QUESTIONS:

26. Based on the given diagram, answer the questions given below:



(a) Label the parts A, B, C and D.
(b) Name the hormone secreted by the testis and mention its role.
(c) State the functions of B and C in the process of reproduction.

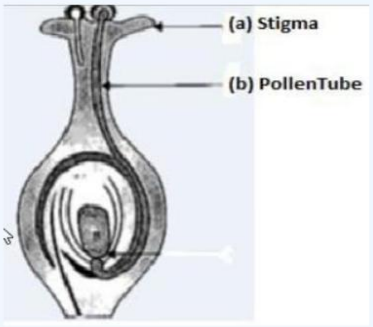
27. (a) Identify the parts 'X' and 'Y' in the figure given below:



(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) Given below are certain situations. Analyse each and describe its possible impact:
(i) A population of bacteria living in temperate waters whose temperature increased due to global warming.
(ii) The sperm encounters the egg when it reaches the oviduct in human females.
(iii) Self-pollination does not occur in a flower that contains only a pistil
(iv) The egg does not get fertilised in a human female
(v) When is the seed placed under appropriate conditions of water and air in the soil?

	ANSWERS
OBJECTIVE TYPE QUESTIONS (1M)	
1.	C. Petals only
2.	A. Sugarcane, roses, grapes
3.	C. It has a very small surface area for glucose and oxygen to pass from the mother to the embryo
4.	C. Formation of fruit
5.	C. (i), (ii), and (iv)
6.	C. Uterus

7.	C. Seeds
8.	C. (i) and (iii)
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.
VERY SHORT ANSWER TYPE QUESTIONS (2M)	
14.	**Solution:** **Answer:**  **(a)** Stigma **(b)** Pollen Tube
15.	**(a) The testes**, which form the **male germ cells (sperm)**, are located **outside the abdominal cavity in the scrotum** because **sperm formation requires a lower temperature** than the normal body temperature. The scrotum helps **maintain this lower temperature**, which is essential for healthy sperm production. **(b) The glands present along the vas deferens**, such as the **prostate gland and seminal vesicles, add their secretions to the sperm.** These secretions: • **Provide nutrition** to the sperm, and • **Make their transport easier** by forming a fluid medium.
16.	(a)The egg is produced by ovaries in humans, whereas sperm are produced by testes in humans. Testes generally produce millions of sperm, 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, it acts only as a contraceptive method but does not provide protection against STDs.

17.	-Growth of pubic hair and extra hair in the armpits. -Development of oily skin and pimples.
18.	a) Male gamete (sperm) travels in the female reproductive tract after being released. The path it takes to fertilise the female gamete (egg) is the vagina, uterus, and fallopian tube, where it fuses with the egg cell, resulting in the formation of a zygote. b) Zygote has 2 sets of chromosomes.
SHORT ANSWER TYPE QUESTIONS (3M)	
19.	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 of male and female gametes. -Fertilisation results in the production of seed and the development of the embryo within it. -It is an internal process
20.	Ovary: -It is the female sex organ that releases an egg every month. -It also produces some hormones such as oestrogen and progesterone. Fallopian tube/Oviduct: -Fertilisation takes place in the oviduct. -The egg is carried to the uterus through the fallopian tube or oviduct. Uterus: -The 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.
21.	a) 1. Indiscriminate female foeticide and desire for a male child. 2. Declining female – male sex ratio. b) STDs caused by bacteria are: Gonorrhea and Syphilis STDs caused by viruses are: Warts and AIDS (Acquired Immune Deficiency Syndrome)
22.	Methods of contraception (i) Barrier method - Condom/ Diaphragm, to prevent the meeting of sperm 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 the vas deferens in males and the fallopian tube in females is surgically removed or tied. It is called VASECTOMY in males and TUBECTOMY in females.
LONG ANSWER TYPE QUESTIONS (5M)	
23.	a) **(i)** Organ - Testes. Conditions - Requires a lower temperature than the normal body temperature / Secretion of testosterone. **(ii)** The sperm formed in the testes are carried by the vas deferens and delivered to the urethra (Common passage for both sperm and urine). / Testes → Vas deferens → Urethra **(iii)** Long tail of sperm. b) (i) Mechanical barrier / Female condom (Diaphragm) / similar covering worn in vagina;

Oral contraceptives / Oral pills; Copper-T / loops. (Any two methods)
(ii) Surgical methods: Vas deferens in the male is blocked / Vasectomy; Fallopian tube in the female is blocked / Tubectomy.
(iii) Bacteria - Gonorrhea / Syphilis; Virus - Warts / AIDS.

24.

a) (i) Functions of the parts of the human female reproductive system:

(I) Ovary:

- The ovary produces female germ-cells or eggs (ova).
- It also secretes the female hormone estrogen that regulates the reproductive cycle.

(II) Fallopian tube (Oviduct):

- It carries the egg from the ovary to the uterus.
- It is the site of fertilisation, where the male sperm meets the female egg.

(III) Uterus:

- The uterus is the site where the embryo gets implanted after fertilisation.
- It provides nourishment and protection to the developing embryo or foetus until birth.

(ii) Two contraceptive methods used by human males:

1. Use of condoms:

- Acts as a mechanical barrier preventing sperm from entering the female body.
- Also helps reduce the risk of sexually transmitted diseases (STDs).

2. Surgical method (Vasectomy):

- The vas deferens is blocked to prevent sperm from mixing with semen.
- Thus, fertilisation cannot occur.

b) **(i) Difference between Self-Pollination and Cross-Pollination:**

Self-pollination	Cross-pollination
1. Pollen grains are transferred from the anther to the stigma of the same flower or another flower on the same plant.	1. Pollen grains are transferred from the anther of a flower on one plant to the stigma of a flower on another plant of the same species.
2. It usually does not require external agents for pollination.	2. It usually requires agents such as wind, water or insects.
3. It produces less genetic variation in offspring.	3. It produces greater genetic variation in offspring.
4. Example: Pea plant.	4. Example: Papaya plant.

	ii) **A. Stigma:** Receives pollen grains during pollination. **B. Pollen tube:** Carries male gametes from the pollen grain to the ovule. **C. Female germ cell / Egg cell:** Fuses with the male gamete to form a zygote.
CASE STUDY BASED QUESTIONS	
25.	(a) The site of fertilisation in the human female is the **oviduct or fallopian tube.** It is here that the male sperm meets the female egg to form the **zygote.** (b) The **uterus prepares itself by thickening its lining and becoming richly supplied with blood** to nourish the growing embryo after implantation. **(c) (i) When the egg is not fertilised:** • The **unfertilized egg lives for about one day.** • The thickened lining of the uterus breaks down and comes out through the vagina as **blood and mucus.** • This process is called **menstruation,** which lasts for about **two to eight days.** **OR** **(c) (ii) Nutrition of the developing embryo:** • The embryo receives nutrition through a **special tissue called the placenta**. • The placenta is **embedded in the uterine wall** and has **villi** on the embryo's side and **blood spaces** on the mother's side. • This arrangement provides a **large surface area for glucose and oxygen** to pass from the mother to the embryo and for **wastes to be removed** into the mother's blood.
BOARD BASED 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 - Provides nutrition and transportation to sperm. Function of 'C '- urethra: serves as a common passage to both sperm 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 (fertilisation), 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.	**(i)** Most of these bacteria would die, but the few variants resistant to heat would survive and grow further. **(ii)** Fertilisation occurs to form a zygote. **(iii)** Cross-pollination may occur, leading to fruit formation. / No fertilisation. / No fruit formation. **(iv)** If the egg is not fertilised, the thick and spongy lining of the uterus breaks down and comes out through the vagina as blood and mucus, known as menstruation. / Menstruation will take place. **(v)** The seed will develop into a seedling. / Germination will take place.

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