

**WORKSHEET-24**  
**SUBJECT – MATHEMATICS**  
**CLASS – IX**  
**CHAPTER-07**  
**(TRIANGLES)**  
**SESSION - (2020-21)**

**Instructions to be followed: -**

- 1: -From now onwards students do your worksheets in your particular subject notebook respectively. Don't use rough sheets, old copies or anything else. All the stationary shops have already opened. So, you can purchase it.
- 2: - All the student must complete their worksheets as Periodic test marks will be given to those who completes it else you will have to go through pen paper test after the school reopens.
- 3: - Read each and every topic (which will be given in worksheets) of the chapters from NCERT books.
- 4: - All the students must purchase NCERT books as it will help you to understand the chapter.
- 5: - If you have any query related to worksheet, ask your queries in WhatsApp group between 10:00 am to 12:00 pm in the morning and 4:00 to 6:00 pm in the evening.

Q1. . In an isosceles triangle ABC, with  $AB = AC$ , the bisectors of  $\angle B$  and  $\angle C$  intersect each other at O. Join A to O. Show that : (i)  $OB = OC$  (ii) AO bisects  $\angle A$

Watch video: <https://www.youtube.com/watch?v=vVII07xiqYU>

Q2. In  $\Delta ABC$ , AD is the perpendicular bisector of BC (see Fig. 7.30). Show that  $\Delta ABC$  is an isosceles triangle in which  $AB = AC$ .

Watch video: <https://www.youtube.com/watch?v=wqeYxzm07zM>

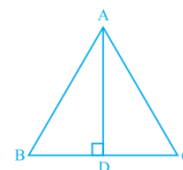


Fig. 7.30

Q3. ABC is an isosceles triangle in which altitudes BE and CF are drawn to equal sides AC and AB respectively (see Fig. 7.31). Show that these altitudes are equal.

Watch video: <https://www.youtube.com/watch?v=1EVVGp-ZWRg>

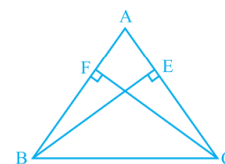
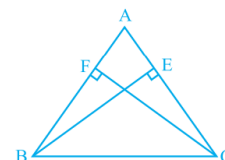


Fig. 7.31

Q4. ABC is a triangle in which altitudes BE and CF to sides AC and AB are equal (see Fig.). Show that (i)  $\Delta ABE \cong \Delta ACF$  (ii)  $AB = AC$ , i.e., ABC is an isosceles triangle.

Watch video: <https://www.youtube.com/watch?v=qwQVFw-gqh4>



Q5. ABC and DCB are two isosceles triangles on the same base BC (see Fig. 7.33). Show that  $\angle ABD = \angle ACD$ .

Watch video: <https://www.youtube.com/watch?v=w-G7zvrMUVO>

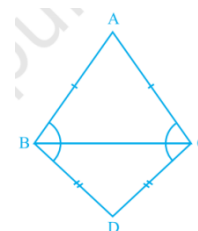


Fig. 7.33

Q6.  $\triangle ABC$  is an isosceles triangle in which  $AB = AC$ . Side  $BA$  is produced to  $D$  such that  $AD = AB$  (see Fig. 7.34). Show that  $\angle BCD$  is a right angle.

Watch video: <https://www.youtube.com/watch?v=K-uMh5654Ps>

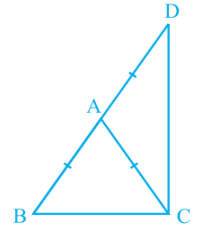


Fig. 7.34

Q7.  $\triangle ABC$  is a right angled triangle in which  $\angle A = 90^\circ$  and  $AB = AC$ . Find  $\angle B$  and  $\angle C$ .

Watch video: <https://www.youtube.com/watch?v=Bmrpx9oSAXo>

Q8. Show that the angles of an equilateral triangle are  $60^\circ$  each.

Watch video: <https://www.youtube.com/watch?v=DIntJnEFTs4&t=14s>

**Note: Watch videos (link attached) for solution of above questions.**

**HARI VIDYA BHAWAN**  
**SUBJECT- SOCIAL SCIENCE**  
**CLASS – IX**  
**SESSION – 2020 – 21**  
**WORK SHEET -24**

**Date – 28-07-2020**

---

**General Instructions: -**

- From now onwards students do your worksheet in your particular subject notebook respectively.
  - Don't use rough sheets, old copies or anything else. All the stationary shops have already opened. So, you can purchase it.
  - All the student must complete their worksheets as Periodic test marks will be given to those who completes it else you will have to go through pen paper test after the school reopens.
  - Read each and every topic (which will be given in worksheets) of the chapters from NCERT books.
  - All the students must purchase NCERT books as it will help you to understand the chapter.
  - If you have any query related to worksheet, ask your queries in WhatsApp group between 10:00 am to 12:00 pm in the morning and 4:00 to 6:00 pm in the evening.
- 

**Ch-2 (History)**  
**Socialism in Europe & The Russian Revolution**

**Part-III**

**1905 Revolution**

- The Russian followed the autocracy where Tsar was not responsible to the parliament.

- Liberals wanted to end the state of affairs. They joined hands with socialist, revolutionaries and social democrats.
- ⇒ 1904 was the worst for Russian workers because
- Prices of essential goods are increased with decline in wages.
  - Strikes demanding reduction of working hours, increase in wages and improvement in working conditions.
  - Workers led by Father Gapon were attacked by police killing hundreds, this came to be known as Bloody Sunday and started the 1905 Revolution.
  - There were countrywide strikes and student walkouts.
- ⇒ Under widespread revolution Tsar allowed creation of all elected consultative parliament or Duma.
- Political activities were restricted by Tsar, suspended first Duma and installed; conservative backed second Duma.
  - Liberals and Revolutionaries were kept out.

### **First world war and the Russian Empire**

- The first war began in 1914 between central powers (Germany, Austria and Turkey) and France, Britain and Russia (later joined by Italy and Romania).
- Tsar Nicholas II without consulting Duma had become a part of the war.
- Russia suffered shocking defeats along with heavy casualties.
- Economy was badly hit with cut off supplies and breaking of industrial equipment.
- Labor shortage, shutdown small workshops.
- People faced scarcity of bread and flour.

### **The February revolution 1917 Petrograd**

- Winter of 1917 made the conditions in the capital worse with food shortage in workers' quarters.

- Workers staged a protest against factory lockout with strikes joined by women. This event marked the INTERNATIONAL WOMEN'S DAY.
- Duma was suspended. Cavalry refused to fire on demonstrators.
- A provincial government was formed and constituent assembly was elected by universal adult suffrage.
- Monarchy was finally brought down in 1917.

### **What Changes After October**

- Private property was opposed.
- Industries and Banks were nationalized.
- Land was declared social property.
- Old titles of Aristocracy banned.
- Bolsheviks party renamed as the Russian Communist Party.
- Russia became one party state.
- Those who criticized Bolsheviks were punished by secret police 'Cheka'.
- Many Bolsheviks followers become disillusioned by the way party functioned.

### **Short Questions: -**

1. What were the steps taken by the Bolsheviks to make Russia a socialist society?

### **Long Questions: -**

1. What situation did the Russia face during the First World War?

### **NOTE:-**

To understand the topic '1905 Russian revolution' in the chapter, watch the video via link: -

[https://www.youtube.com/watch?v=\\_lBiCYF8-7g](https://www.youtube.com/watch?v=_lBiCYF8-7g)

To understand the topic 'First World War and The Russian Empire' in the chapter, watch the video via link: -

<https://www.youtube.com/watch?v=hOA5g2Ncn-Y>

To understand the topic 'Russian revolution 1917' in the chapter, watch the video via link: -

<https://www.youtube.com/watch?v=KOK1TMSyKcM>

To understand the topic 'Steps taken by Bolsheviks after October' in the chapter, watch the video via link: -

<https://www.youtube.com/watch?v=CBuJ33KulOE>

## हरि विद्या भवन विषय - हिन्दी

### सामान्य निर्देश

- (i) प्रस्तुत कार्य अपनी हिन्दी व्याकरण की कार्य-पुस्तिका में करिए तथा किसी अन्य कॉपी में किया गया कार्य स्वीकार नहीं किया जाएगा।
- (ii) सभी विद्यार्थियों को इकाई परीक्षा के लिए प्रस्तुत कार्य को पूर्ण करना अनिवार्य है।
- (iii) वर्कशीट में दिए गए कार्य को ध्यानपूर्वक पढ़े फिर उसे अपनी कार्य-पुस्तिका में करें।
- (iv) सभी विद्यार्थियों को पाठ को पढ़ने और समझने के लिए किताब की आवश्यकता पड़ेगी अतः सभी विद्यार्थियों को किताब लेना अनिवार्य है।
- (v) वर्कशीट से सम्बन्धित समस्या पूछने के लिए आप अपनी कक्षा-ग्रुप पर सुबह 10 बजे से 12 बजे तक तथा शाम को 4 से 6 बजे तक मौजूद रह सकते हैं।

हरि विद्या भवन  
कक्षा :- दसवीं  
विषय - हिन्दी

तारीख :- 28-7-20 वर्कशीट - 21 (व्याकरण)

पुनरावृत्ति कार्य

निर्देश :- दिया हुआ कार्य व्याकरण की कार्य पुस्तिका में स्वयं करना है।

समास

प्रश्न=1 समास की परिभाषा लिखिए।

प्रश्न=2 समास के कितने भेद होते हैं, नाम लिखकर साय में उदाहरण भी लिखिए।

प्रश्न=3 कर्मधारय समास और बहुव्रीहि समास में अन्तर स्पष्ट कीजिए।

प्रश्न=4 द्विविगु और द्वन्द्व समास को स्पष्ट कीजिए।

प्रश्न=5 निम्नलिखित को समस्त पद बनाइए तथा समास का नाम लिखिए।

(i) नीला वह जो गगन ।

(ii) पढ़ने की शक्ति ।

(iii) माता और पिता ।

(iv) लम्बा है उदर जिसका ।



प्रश्न-6 निम्नलिखित समस्त पद का समास-विग्रह  
कीजिए तथा समास का नाम लिखिए-

- (i) स्वर्णकार
- (ii) वनवास
- (iii) जैवकतरा
- (iv) महादेव
- (v) देशानन

प्रश्न-7 निम्नलिखित को समस्त पद  
बनाकर समास का नाम लिखिए।

- (i) डाक के लिए गाड़ी।
- (ii) पाँच बरों (वृक्षों) का समूह।

प्रश्न-8 'आपबीती' का समास विग्रह कीजिए।  
तथा समास का नाम लिखी।

प्रश्न-9 'स्कूटर पर सवार' का समस्त पद  
बनाइए तथा समास का नाम लिखी।

प्रश्न-10 साँध और समास में अन्तर  
लिखी।

# HARI VIDYA BHAWAN

## Worksheet-27

### Class-X

### Subject-Science

### Session-2020-21

## Ch-8: How do organisms reproduce

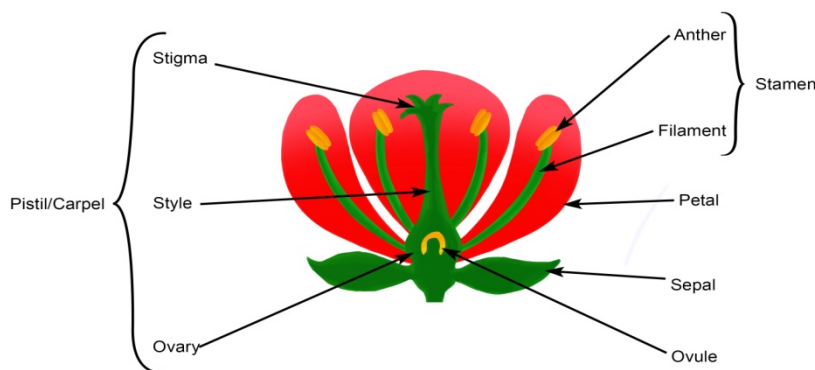
Date:28/07/2020

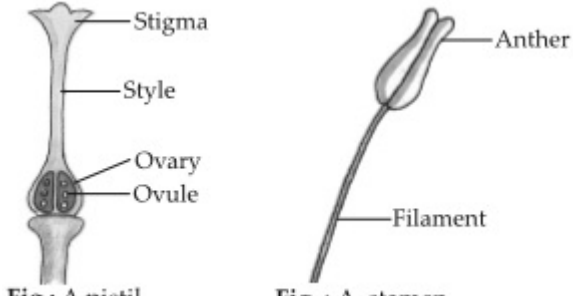
---

### Instructions to be followed :-

- 1:- From now onwards students do your worksheet in your particular subject notebook respectively.  
Don't use rough sheets , old copies or anything else. All the stationary shops have already opened.  
So, you can purchase it.
  - 2:- All the student must complete their worksheets as Periodic test marks will be given to those who completes it else you will have to go through pen paper test after the school reopens.
  - 3:- Read each and every topic (which will be given in worksheets) of the chapters from NCERT books.
  4. All the students must purchase NCERT books as it will help you to understand the chapter.
  - 5:- If you have any query related to worksheet, ask your queries in WhatsApp group between 10:00 am to 12:00 pm in the morning and 4:00 to 6:00 pm in the evening.
- 

### ❖ Structure of a Flower :



| Parts   | Description  | Functions  |
|---|--|--|
| <b>1.Sepals</b>                                       | Green structures   | Protect the inner parts when the flower is in bud stage.   |
| <b>2. Petals</b>                                      | Colored parts of a flower  | Attract the insects for pollination  |
| <b>3.Stamen</b>                                       | <ul style="list-style-type: none"> <li>➤ <b>Male reproductive organ.</b></li> <li>➤ Each stamen has two parts—</li> <li>(a) <b>Anther</b> : swollen top part which has large number of pollen grains.</li> </ul> | Produce pollen grains that contain male gametes.   |
|   | <ul style="list-style-type: none"> <li>➤ b) <b>Filament</b> : Stalk that bears anthers.</li> </ul>   |  |
| <b>4.Carpel</b><br><br><b>OR</b><br><br><b>Pistil</b> | <ul style="list-style-type: none"> <li>➤ <b>Female reproductive organ.</b></li> <li>➤ It has three parts—</li> <li>(a) <b>Stigma</b> : top sticky part</li> </ul>  | Produces ovules that contain female gametes.<br><br>a ) Receives pollen grains during pollination. |
|   | (b) <b>Style:</b> Tube like structure  | b) connects the Ovary & Stigma   |
|   | (C) <b>Ovary:</b> The swollen part and contains ovules.  | c) Each ovule has an egg cell  |
|   |  <p>Fig.: A pistil                      Fig. : A stamen</p>  |  |

## ❖ Sexual reproduction in plants: Steps

Following steps together complete sexual reproduction in plants:

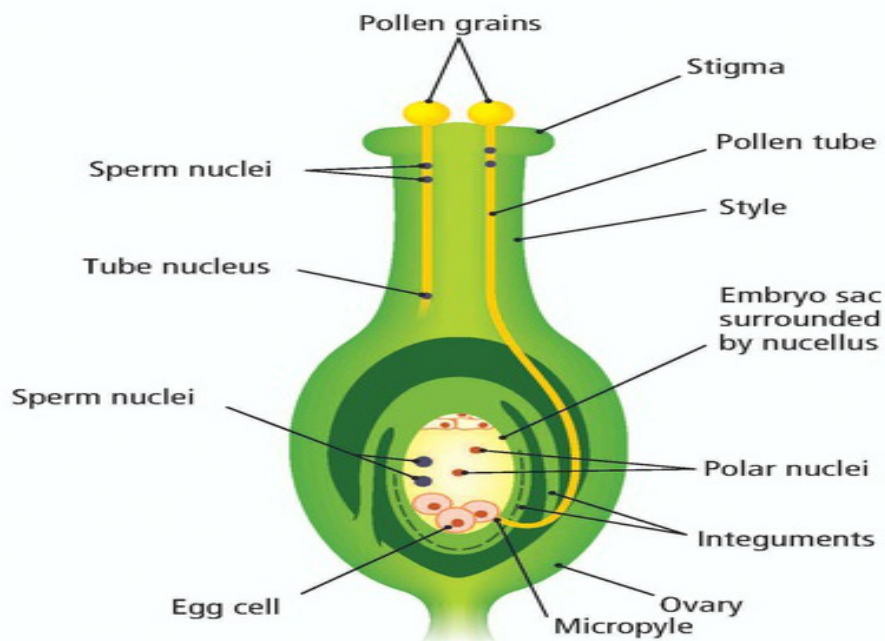
- 1) Pollination
- 2) Fertilization
- 3) Seed formation
- 4) Germination

### 1) Pollination:

- Transfer of pollen grains from anther to stigma is termed as Pollination. This transfer of pollen grains occurs with the help of pollinating agents like wind, water, insects, birds etc.

| <b>Self pollination</b>   | <b>Cross pollination</b>   |
|---|--|
| 1. Transfer of pollen grains from anther to stigma of the same flower | 1. Transfer of pollen grains from anther of one plant to stigma of the another plant |
| 2. It occurs in bisexual flowers, eg, pea, rice, wheat etc.           | 2. It occurs in unisexual as well as bisexual flowers, eg, maize ,onion etc.         |

**2 ) Fertilization:** Fertilization is the process of fusion of male and female gamete to form a zygote during sexual reproduction. Pollination is followed by fertilisation in plants.



### ➤ **Double Fertilisation:**

- Fertilization takes place inside the **female reproductive part**.
- **After pollination** Pollen grains land on the stigma of the ovary.
- Pollen tubes grow out of the pollen grains, travel through the style and reach the ovary, through micro pyle.
- Pollen tube has two male germ cells. Each ovule has two polar nuclei and a female germ cell (egg).
- Pollen tube releases two male germ cells inside the ovule, one of them fuses with female germ cell and forms a zygote which grows into the baby plant i.e. embryo, the fusion is known as **syngamy**.
- The other male germ cell fuses with two polar nuclei, the process is known as triple fusion. So in flowering plants two fusions take place during fertilisation. It is called **double fertilisation**.

➤

### ➤ **Post-fertilisation changes:**

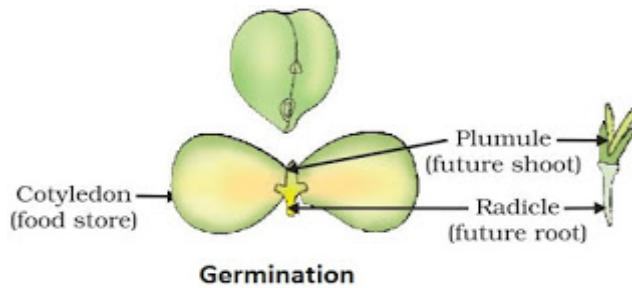
- Zygote divides repeatedly to form Embryo.
- Ovule develops a thick coat & forms seed.
- Ovary ripens to form fruit.
- Petals, sepals, stamens, style and stigma shrivel and fall off.

## **3 ) Seed formation:**

- **Seed has two parts:** Cotyledons and Embryo .
- **Cotyledons** store food for the future plant.
- **Embryo has two parts:** plumule and radicle. Plumule develops into shoot and radicle develops into root.

## **4) Germination:**

- Development of a seedling from a seed under appropriate conditions is known as **germination**.



## ❖ Sexual Reproduction in Human beings

- Period during which the rate of general body growth slows down & reproductive tissues starts maturing is termed as **Puberty/ Adolescence**.
- **Male parent produces male gametes called sperms. Female parent produces female gametes called ova.**
- A human male reaches puberty at 13-14 years, whereas a female reaches the same around 11-13 years.
- Puberty is associated with many physical, mental, emotional and psychological changes in boys and girls which occur slowly over a period of time. These are called **secondary sexual characters**.

### ➤ Changes at Puberty:

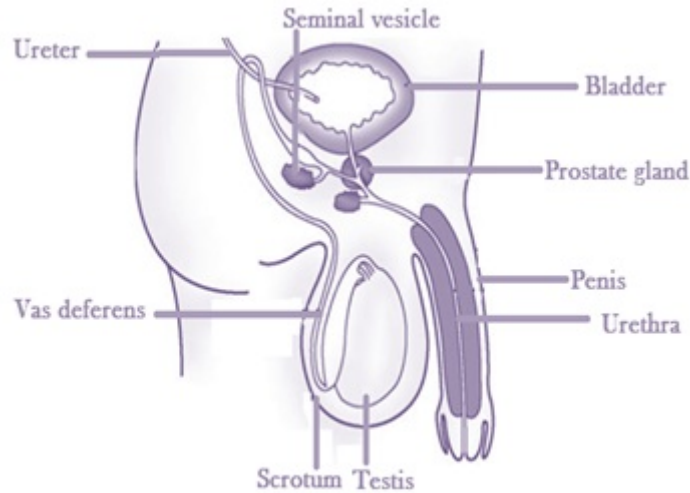
#### **In boys :**

- Thick hair growth under armpits & genital area
- Facial hair
- Voice begins to crack
- Beard and mustache start appearing

#### **In girls :**

- Start of menstruation cycle
- Breast enlargement
- Hair growth under armpits & genital area

## ❖ Male Reproductive System:



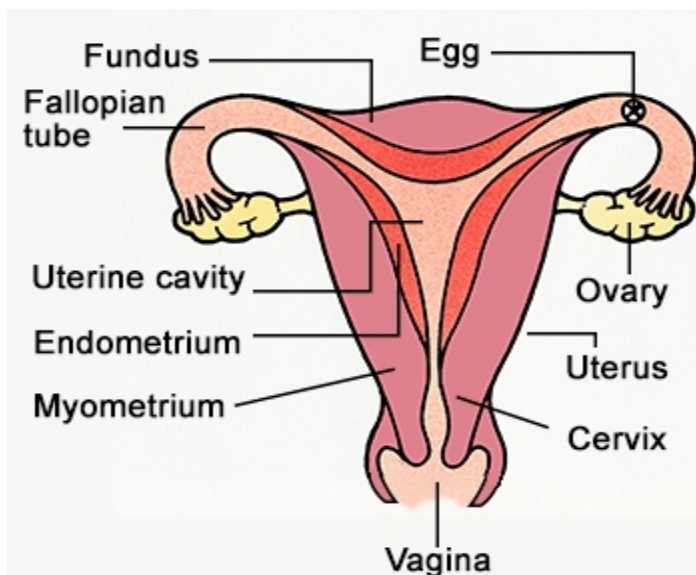
Male reproductive system consists of the following components:

| Parts                   | Location   | Functions   |
|-------------------------|--|---|
| <b>1 pair of testes</b> | ➤ Present in a bag-like structure called <b>scrotum</b> .  | <ul style="list-style-type: none"> <li>• To produce male gametes i.e. the sperms</li> <li>• Produce male hormone, <b>testosterone</b></li> </ul>  |
| <b>Scrotum</b>          | ➤ lies outside the abdominal cavity, hence they are extra abdominal in position.                             | <ul style="list-style-type: none"> <li>• Maintains a temperature lower than body temperature (because the testes have to be maintained at 1-3 degree lesser temperature than the body in order to produce functional sperms)</li> </ul> |
| <b>Epididymis</b>       | ➤ Attached to each testis is a highly coiled tube called epididymis.   | <ul style="list-style-type: none"> <li>• The sperms are stored here and they mature in the epididymis</li> <li>• Each epididymis leads into the sperm duct or the vas-deferens.</li> </ul>  |
| <b>Vas deferens</b>     | ➤ Tube like structure emerging from lower part of epididymis.  | <ul style="list-style-type: none"> <li>• It passes sperms from testes to urethra.</li> </ul>  |
| <b>Urethra</b>          | <ul style="list-style-type: none"> <li>➤ Tube like structure.</li> <li>➤ Vas deferens unites with</li> </ul> | <ul style="list-style-type: none"> <li>• It is the common passage for both semen and urine</li> </ul>   |

|                         |  |   |
|-------------------------|--|---|
|                         | the duct coming from the urinary bladder to form a common duct called <b>urethra</b> . | from the body to. the outside   |
| <b>Penis</b>            | ➤ <b>Urethra</b> which passes through the <b>penis</b> and opens to the outside.       | <ul style="list-style-type: none"> <li>• It is the organ which is used to introduce semen into the female body.</li> <li>• It is richly supplied with blood vessels.</li> </ul> |
| <b>Seminal vesicles</b> | ➤ A pair of thin-walled muscular elongated sacs.                                       | <ul style="list-style-type: none"> <li>• Produce viscous fluid which help in sperm mobility in female</li> <li>• secretions which provide nutrition</li> </ul>                  |
| <b>Prostate gland</b>   | ➤ Located between the bladder and the penis.   | <ul style="list-style-type: none"> <li>• Secretes milky fluid that helps in sperms mobility</li> </ul>  |
| <b>Cowper's gland</b>   | ➤ Located beneath the prostate gland.  | <ul style="list-style-type: none"> <li>• Secretes mucous to lubricate female passage</li> </ul>   |

➤ The secretions of the three glands along with the sperms is known as semen.

❖ Female Reproductive System:





Female reproductive system consists of the following components:

| <b>Parts</b>                                 | <b>Location</b>  | <b>Functions</b>  |
|--|--|---|
| <b>1 pair of ovaries</b>                     | <ul style="list-style-type: none"> <li>➤ Each ovary is almond shaped .</li> <li>➤ present inside the abdominal cavity.</li> </ul>  | <ul style="list-style-type: none"> <li>• Produce and release ova</li> <li>• Secrete female hormones estrogen &amp; progesterone</li> </ul>  |
| <b>1 pair of fallopian tubes or oviducts</b> | <ul style="list-style-type: none"> <li>➤ The end lying close to the ovary has finger like structures called <b>fimbriae</b>.</li> </ul>  | <ul style="list-style-type: none"> <li>• Receives ovum from ovary.</li> <li>• It is the site of <b>fertilization</b> between the male and the female gametes and formation of the zygote .</li> </ul> |
| <b>A uterus/womb</b>                         | <ul style="list-style-type: none"> <li>➤ The two fallopian tubes unite to form an elastic bag like structure called <b>uterus</b>.</li> <li>➤ The inner lining of the uterus is richly supplied with blood vessels and is known as endometrium.</li> </ul> | <ul style="list-style-type: none"> <li>• Foetus develops here.</li> </ul>   |
| <b>Cervix</b>                                | <ul style="list-style-type: none"> <li>➤ The narrow end of the uterus is called cervix.</li> </ul>   | <ul style="list-style-type: none"> <li>• Its allows sperm to pass from vagina into the uterus.</li> </ul>   |
| <b>Vagina</b>                                | <ul style="list-style-type: none"> <li>➤ The uterus opens into the vagina through the cervix.</li> <li>➤ vagina is a muscular tube.</li> </ul>   | <ul style="list-style-type: none"> <li>• Sperm discharge occurs here</li> <li>• Acts as birth canal</li> </ul>  |

**Answer the following questions:**

1. How is the process of pollination different from fertilisation?
2. Which of the following is not a part of the female reproductive system in human beings ?

- (a) Ovary
  - (b) Uterus
  - (c) Vas deferens
  - (d) Fallopian tube
3. The anther contains
    - (a) sepals
    - (b) ovules
    - (c) carpel
    - (d) pollen grains
  4. Name the male and female gametes in animals.
  5. Why are testes placed outside the abdominal cavity in the scrotal sac?
  6. Write the name of one male and one female sex hormone.
  7. Where do the following functions occur?
    - (a) Production of egg
    - (b) Fertilisation
    - (c) Implantation of zygote

**NOTE:**

- ❖ Above questions are given from NCERT blue box questions, exercise and notes. (page no 140 and 141). For solution check the NCERT solution app & notes.
- Click over the link to get the knowledge about parts of flower:  
<https://www.youtube.com/watch?v=5O-q3alPFOo>
- Click over the link to get the knowledge about self pollination & cross pollination:  
<https://www.youtube.com/watch?v=hCloCHwrJdQ>
- Click over the link to get the knowledge about sexual reproduction in plants:  
<https://www.youtube.com/watch?v=mix5torjiYc>  
<https://www.youtube.com/watch?v=HP21hIVJhWl> ( Step wise)
- Click over the link to get the knowledge about changes during puberty & secondary sexual characters:  
<https://www.youtube.com/watch?v=aREAIE-GyDc>
- Click over the link to get the knowledge about male reproductive system:  
<https://www.youtube.com/watch?v=ktWirmb6rQw>
- Click over the link to get the knowledge about female reproductive system:  
<https://www.youtube.com/watch?v=IA3xalgW8lc>  
[https://www.youtube.com/watch?v=-5SOvWaW\\_OY](https://www.youtube.com/watch?v=-5SOvWaW_OY)