

# 1. Reproduction

## A) Reproduction in organisms

VSA

1. Why are Date Palms referred to as dioecious?
2. What marks the end of vegetative phase in plants?
3. Name the vegetative propagules seen in the following :  
(a) Agave (b) Water hyacinth
4. Give the scientific name of the plant that produces flowers once in twelve years
5. Why do the internodal segment of sugarcane fails to propagate vegetatively even when they are in contact with damp soil?

SA

1. Why are papaya and date palm plants said to be dioecious whereas cucurbits and coconut palms monoecious, in spite of all of them bearing unisexual flowers?

## B) Sexual reproduction in flowering plant

VSA

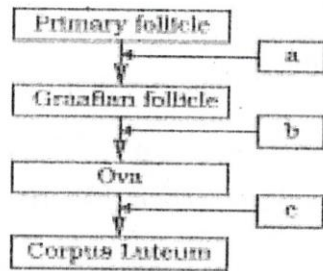
1. Define Spermiation
2. Do pollen grains survive in adverse conditions?
3. Mention the pollinating agent of an inflorescence of small dull coloured flowers with well exposed stamens and large feathery stigma. Give any one characteristic of pollen grain produced by such flowers

SA

1. Geitonogamous flowering plants are genetically autogamous but functionally cross pollinated. Justify.
2. Draw a diagram of microsporangium and label its wall layers. Write briefly on the role of Endothecium.
3. With a neat, labeled diagram, describe the parts of a mature angiosperm embryo sac. Mention the role of synergids.
4. Draw the sectional view of a pollen grain & label any three parts
5. Differentiate between internal & external reproduction with examples
6. Draw a neat labeled diagram of a monocot seed.
7. If the number of chromosomes in the leaf cell of a flowering plant is 28. What number would you expect in the embryo and endosperm?
8. If the chromosome no in a plant species is 40, what will be the chromosome number and the ploidy of the i) Megaspore mother cell ii) the endosperm cells?

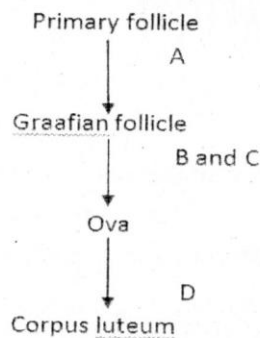
LA

1. Explain briefly the development of female gametophyte. Draw a labeled diagram of mature embryo sac.



LA

- What are sperm lysins? Explain their role in the process of fertilization?
  - Explain the process of development of zygote in human female till its implantation.
- Given below is a flow chart showing ovarian changes during menstrual cycle. Fill in the spaces with the name of hormones responsible for the events



- How is placenta connected to the embryo? Explain the role of Placenta as an endocrine tissue?
- Explain oogenesis with the help of diagram.
  - In which part of female reproductive system do the following events occur?
      - Release of 1<sup>st</sup> Polar body
      - Release of 2<sup>nd</sup> Polar body
      - Fertilization
      - Implantation
    - Name the hormone that the female pituitary release for parturition and what is source of signal for the same?
  - When and where does spermatogenesis occurs in human male?
    - Draw a neat diagram of a mature human male gamete. Label the following parts – Acrosome, nucleus, middle piece and tail.
    - Mention the functions of acrosome and middle piece.

## D) Reproductive health

VSA

- Why is 'Saheli' considered to be an improved form of oral contraceptive for human female?
- Expand the following :
  - IUCD
  - MTP

SA

2. Give reasons why:
  - (i) Most zygote in the angiosperm divide only after certain amount of endosperm is formed.
  - (ii) Ground nut seeds are Exalbuminous and castor seeds are Albuminous.
  - (iii) Micropyle remains as small pore in the seed coat of a seed.
  - (iv) Integuments of an ovule harden and the water content is highly reduced, as the Seed matures.
  - (v) Apple and cashew are not called true fruits
3. (a) draw the labeled diagram of L S of an albuminous seed and label any six parts.
4. (a) Draw a neat labeled diagram of an anatropous ovule.  
(b) What is meant by triple fusion?
5. Give reasons why –
  - (a) Most zygotes in angiosperms divide only after certain amount of endosperm is formed.
  - (b) Groundnut seeds are exalbuminous and castor seeds are albuminous.
  - (c) Micropyle remains as a small pore in the seed coat of a seed.
  - (d) Integuments of an ovule harden and the water content is highly reduced, as the seed matures.
  - (e) Apple and cashew are not called true fruit.

## C) Human Reproduction

VSA

1. What initiate the foetal ejection reflex?
2. Name the important mammary gland secretions that help in resistance of the new born baby
3. Why do intensely lactating mothers do not generally conceive?

SA

1. a. In which part of human female reproductive system do the following events take place?
  - (i) Release of 1<sup>st</sup> polar body
  - (ii) Release of 2<sup>nd</sup> polar body
- b. From where do signals for parturition originate? What does the maternal pituitary release for stimulating uterine contractions for child birth?
2. What prevent the polyspermy in human? Explain the phenomenon
3. Draw the well labeled diagram of gametogenesis in human male.
4. Name the cells located inside & outside the seminiferous tubule.
5. Given below is a flow chart showing ovarian changes during menstrual cycle. Fill in the spaces giving the name of the hormones responsible for the events shown