

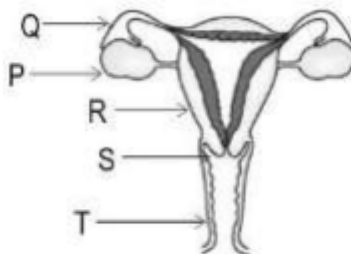
Marks : 30

Time : 45 min

1. In a flower, the parts that produce male and female gametes (germ cells) are
  - (a) stamen and anther
  - (b) filament and stigma
  - (c) anther and ovary
  - (d) stamen and style
2. Which of the following statements are true for flowers?
  - (i) Flowers are always bisexual.
  - (ii) They are the sexual reproductive organs.
  - (iii) They are produced in all groups of plants.
  - (iv) After fertilisation they give rise to fruits.

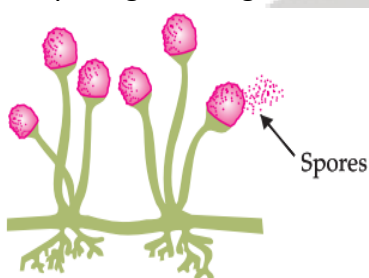
(a) (i) and (iv)      (b) (ii) and (iii)      (c) (i) and (iii)      (d) (ii) and (iv)
3. A certain class of herbicides does not allow pollen tube formation. Which of the following processes does it inhibit?
  - (a) Cross-pollination
  - (b) Self-pollination
  - (c) Seed dispersal
  - (d) Fertilisation
4. Contraceptives help in preventing pregnancies. What function would a contraceptive loop inserted at T serve?
  - A. Stopping sperms from reaching and fertilizing eggs
  - B. Stopping release of sperms
  - C. Blocking the release of eggs
  - D. Stopping egg creation.
5. During adolescence, several changes occur in the human body. Mark one change associated with sexual maturation in boys only.
  - (a) Loss of milk teeth
  - (b) Increase in height
  - (c) Cracking of voice
  - (d) Weight gain
6. In human males, the testes lie in the scrotum, because it helps in the
  - (a) process of mating.
  - (b) formation of sperm
  - (c) easy transfer of gametes.
  - (d) all of the above.

7. Vasectomy is a method of contraception in males where the vasa deferentia are tied or sealed so as to prevent sperm from entering the urethra. The diagram below represents the human female reproductive system with some of its parts marked P, Q, R, S, T.



- (a) Identify the labelled part that will be operated on for 'tubectomy' in females. State its function.
- (b) Kavya says that if part R is removed the female would not be able to produce eggs. Is she correct? Justify.
8. A new sugarcane plant is genetically the same as the parent plant, but a child of human parents is genetically not the same as its parents. Explain why.
9. Water hyacinths reproduce both sexually and asexually. They reproduce sexually by producing seeds through flowers, and asexually by bud formation or fragmentation. It undergoes reproduction through either of the methods depending on environmental conditions. Water hyacinths bloom freely in water-rich conditions whereas, reproduction for survival is more effort intensive in water-scarce conditions.
- (a) Explain why this variation in reproduction is required in water hyacinths.
- (b) Which mode of reproduction is likely to occur in the following conditions? Justify
- abundance of water
  - scarcity of water
10. Compare the reproductive parts of flowers and humans and answer the questions below:
- Which part of the human female reproductive system has a similar function as the stigma in a flower? Give a reason to support your answer.
  - Testes in the male reproductive system would correspond to which part of the male reproductive system in a flower? Justify.
  - The style of a flower and the fallopian tube in humans correspond functionally with each other. Is this statement true? Justify your answer
11. Name the reproductive parts of an angiosperm. Where are these parts located? Explain in brief the structure of its female reproductive part.
12. (a) Draw a diagram showing germination of pollen on stigma of a flower and mark on it the following organs/parts:
- Pollen grain
  - Pollen tube
  - Stigma
  - Female germ cell
- (b) State the significance of pollen tube.
- (c) Name the parts of flower that develop after fertilization into: (i) Seed (ii) Fruit.

11. Write one main difference between asexual and sexual mode of reproduction. Which species is likely to have comparatively better chances of survival-the one reproducing asexually or the one reproducing sexually? Justify your answer
12. Fallen leaves of 'Bryophyllum' on the ground produce new plants whereas the leaves of rose do not? Explain this difference between the two plants.
13. State the changes that take place in the uterus when:
  - (i) Implantation of embryo has occurred.
  - (ii) Female gamete/egg is not fertilised
14. List three techniques that have been developed to prevent pregnancy. Which one of these techniques is not meant for males?
15. Study the given diagram and answer any four questions from (a) to (e) as given below-



(a) The above diagram depicts:

- (i) Spore formation in Rhizopus
- (ii) Fragmentation in Spirogyra
- (iii) Binary fission in Amoeba
- (iv) Spore formation in Yeast

(b) Name the following:

- (i) Thread like non-reproductive structures present.
  - (ii) 'Blobs' that develop at the tips of the nonreproductive threads.
- (c) How the labelled structure 'spores' protect themselves.
- d) What is the function of spores in these organisms?
- (e) Which of these plants reproduces in the same way as the given process?
- (i) Balsam      (ii) Fern      (iii) Mango      (iv) Hibiscus

16. What is placenta? Write any two major functions of placenta

17. Contraception is the act of preventing pregnancy. This can be a device, a medication, a procedure or a behavior. Contraception allows a woman control of her reproductive health and affords the woman the ability to be an active participant in her family planning.

- (a) "Use of a condom is beneficial for both the sexes involved in a sexual act," Justify this statement giving two reasons.
- (b) How do oral contraceptive help in avoiding pregnancies?
- (c) What is sex selective abortion? How does it affect a healthy society?
- (d) Name two bacterial and two viral infections each that can get sexually transmitted.