



D.A.V. PUBLIC SCHOOL, NEW PANVEL

SAMPLE PAPER FOR UNIT TEST 2025-2026

STD:- XII

Sub: Biology

Date:

Time:- 2 Hours

Max. Marks:- 50

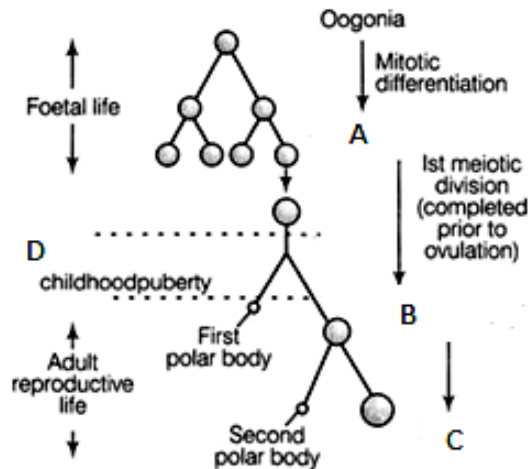
GENERAL INSTRUCTIONS:

- (i) All questions are compulsory.
- (ii) The question paper has five sections and 25 questions.
- (iii) Section-A has 13 questions of **1mark** each; Section-B has 4 questions of **2marks** each; Section-C has 6 questions of **3marks** each; Section-D has a case based question of **4 marks** and Section-E has 2 questions of **5 marks** each.
- (iv) There is no overall choice. However, internal choice has been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- (v) Wherever necessary, neat and properly labelled diagram should be drawn.

SECTION:A

1. Pollen grains of wheat and rice lose viability after
 - A. Sexual years
 - B. 30 minutes
 - C. Few seconds
 - D. Few months
2. Which of the following plants produce both chasmogamous and cleistgamous flowers
 - A. Viola
 - B. Oxalis
 - C. Commelina
 - D. All of these
3. Implantation occurs between
 - A. 3rd and 5th day after fertilization
 - B. 5th and 7th day after fertilization
 - C. 9th and 11th day after fertilization
 - D. 6th and 10th day after fertilization
4. Onset of menstruation is due to
 - A Increased progesterone level
 - B Increase in level of FSH
 - C Fall in progesterone level
 - D Decrease in level of FSH
5. Which of the following hormone is not secreted by human placenta?
 - A. hCG
 - B. hPL
 - C. Estrogen
 - D. LH
6. The following are results of crossing a female fly (AaBb) with a male fly (aabb)
AaBb -- 1005 aabb-- 1000 Aabb—200 aaBb—210
Which two genotypes are the recombinant offspring?
 - A. AaBb & Aabb
 - B. AaBb & aaBb
 - C. Aabb & aaBb
 - D. AaBb & aabb

7. Identify A, B, C and D



- A A-Primary Oocyte B-Secondary Oocyte C-Ovum D-Birth
 B A-Primary spermatocyte B-Secondary spermatocyte C-sperm D-Birth
 C A-Primary Oogonia B-Secondary Oogonia C-Primary oocyte D-Puberty
 D A-Primary Oocyte B-Secondary Oocyte C-Ovum D-Puberty

8. The gene that controls the ABO blood group system in human beings has three alleles – I^A , I^B and i .

A child has blood group O. His father has blood group A and mother has blood group B. Genotypes of other off springs can be:

- (i.) $I^B I^B$ (ii) $I^A i$ (iii) $I^B i$ (iv) $I^A I^B$ (v) ii

- A. (i), (ii), (iii), (v) B. (ii), (iii), (iv), (v)
 C. (iii), (iv), (v) D. (iv), (iii), (i)

9. A couple has two daughters. What is the probability that the third child will be a female?

- A. 25% B. 50%
 C. 75% D. 100%

10. Which of the following statements indicates parallelism in genes and chromosomes?

- (i). They occur in pairs. (ii). They segregate during gamete formation.
 (iii). They show linkage. (iv). Independent pairs segregate independently.

- A. (i) and (iii) B. (ii) and (iii)
 C. (i), (ii) and (iii) D. (i), (ii) and (iv)

Question No. 11 to 13 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true, and R is the correct explanation of A.
 (b) Both A and R are true, but R is not the correct explanation of A.
 (c) Assertion is true but R is false.
 (d) Assertion is false but R is true.

11. **Assertion:** The law of independent assortment can be studied through dihybrid cross.

Reason: Only those genes show independent assortment which are linked.

12. **Assertion:** The maximum frequency of recombination that results from crossing over of linked genes is 50 percent.

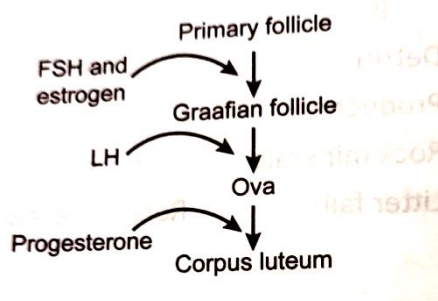
Reason: If the distance between linked genes is longer, they show higher frequency of crossing over.

13. **Assertion:** Hydrophily is the mode of pollination taking place with the agency of water. In hydrophilous plants, flowers are small and inconspicuous, with perianth and another floral parts being unwettable. These flowers lack nectar glands and also lack any odour. Pollen grains are elongated, ribbon-like light and unwettable due to presence of mucilage cover.

Reason: Flowers, pollinated by water, are inconspicuous lacking any odour and nectar.

SECTION – B

14. Given below is a flowchart showing ovarian changes during menstrual cycle.



Answer the following questions based on the information given.

(i) Given above are the stages in human reproduction. Write them in correct sequential order. Insemination, Gametogenesis, Fertilisation, Parturition, Gestation, Implantation

(ii) Name two hormones that can be found only in the blood of a pregnant woman. Mention the source organ/tissue that secretes each of them.

15. How would you find genotype of a tall pea plant bearing white flowers? Explain with the help of a cross. Name the type of cross you would use.

16. Give reasons why hybrid seeds are to be produced year after year.

17. Briefly describe the aims and measures of reproductive and child health care programmes in India.

SECTION – C

18. For a layman, both apple and banana are fruits. But a biology student categorises fruits as true fruits, false fruits and parthenocarpic fruits. Justify.

19. State the agent/s which helps in pollinating in the following plants. Explain the adaptations in these plants to ensure pollination:

(a) Maize (b) Water hyacinth (c) Vallisneria

20. In Snapdragon, a plant with red flowers was crossed with a plant with white flowers. Work out all the possible genotypes and phenotypes of F_1 and F_2 generations. Comment on the pattern of inheritance in this case.

21. A couple visited a doctor and come to know that their foetus (unborn child) is suffering from an incurable chromosomal disorder. Doctors advised them for MTP.
- (i) What is MTP?
 - (ii) What is its significance?
 - (iii) Are they (MTPs) playing any role in distributing the sex ratio of the country?
22. Give a flow chart representing the process of fertilisation in human body initiating from the discharge of semen till formation of a zygote.

SECTION – D

Q. No. 23 is a case-based question. This question has 3 subparts with internal choice in one subpart.

23. Among the 1.9 billion women of reproductive age group (15 -49 years) worldwide in 2019, 1.1 billion have a need for family planning. Of these, 842 millions are using contraceptive methods and 270 millions have an unmet need for contraception. The proportion of the need for family planning satisfied by modern methods, Sustainable Development Goals (SDGs) was 70-75% globally in 2019, yet less than half of the need for family planning was met in middle and Western Africa. Only one contraceptive method, i.e., condoms can prevent both a pregnancy and the transmission of STDs including HIV.
- (i) Which of the following birth control measures can be considered as the safest? Why?
Rhythm method, Use of physical barriers, Contraceptive pills, Sterilisation techniques
 - (ii) Name the most widely accepted method of contraception in India at present.
 - (iii) What are the most important components of oral contraceptive pills?

SECTION – E

24. (a) Name the hormones secreted and write their functions:
- (i) by corpus luteum and placenta (any two)
 - (ii) during follicular phase and parturition.
- (b) Name the stages in a human female where:
- (i) Corpus luteum and placenta co-exist.
 - (ii) Corpus luteum temporarily ceases to exist.
25. (i) Draw a diagrammatic labeled diagram of the development of an embryo sac of an angiospermic plant.
- (ii) Describe different stages of development of an embryo in a dicot plant only with the help of diagrams.

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