



### General Instructions

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- (i) The test is of 1 hour duration.
- (ii) The question paper consists of 50 questions. The maximum marks are 250.
- (iii) 5 marks are awarded for every correct answer, and 1 mark is deducted for every wrong answer.

1. From the statements given below, choose the options that are true for a typical female gametophyte of a flowering plant.

- (i) It is 8-nucleate and 7-celled at maturity.
- (ii) It is free-nuclear during the development.
- (iii) It is situated inside the integument but outside the nucellus.
- (iv) It has an egg apparatus situated at the chalazal end.

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

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2. A particular species of plant produces light, nonsticky pollen in large numbers and its stigmas are long and feathery. These modifications facilitate pollination by

- (A) insects
- (B) water
- (C) wind
- (D) animals

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**3. Which of the following statement(s) is/are correct about *Parthenium* (carrot grass)?**

- (A) *Parthenium* came into India as a contaminant with imported wheat
  - (B) It has become ubiquitous in occurrence
  - (C) It causes pollen allergy
  - (D) All of the above
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**4. Choose the incorrect statement from the following.**

- (A) Long ribbon-like pollen grains are seen in some aquatic plants
  - (B) In some insect species, the floral reward for pollination is the safe place to lay eggs in the flower
  - (C) Insect robbers consume pollens or nectar without bringing about pollination
  - (D) Majority of the flowering plants produce homosexual flowers
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**5. Refer to the given characteristics of some flowers:**

- I. Flowers are small. They are often packed in inflorescence.
- II. Flowers are colourless, nectarless and odourless.
- III. Well exposed stamens.
- IV. Pollen grains produced in large number, light and non-sticky.
- V. Flowers often have a single ovule in each ovary.
- VI. Stigma large, often feathery.

**The above features are the characteristics of**

- (A) Self-pollination
  - (B) Anemophily (pollination by wind)
  - (C) Ornithophily (pollination by birds)
  - (D) Entomophily (pollination by insects)
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**6. Read the following statements and choose the correct ones.**

- I. Non-essential floral organs in a flower are sepals and petals.
- II. Stamens represent male gametophyte.

- III. A dithecious anther consists of four microsporangia, two in each lobe.  
IV. The anther wall has middle layer lying between endothecium and tapetum.

- (A) I and II  
(B) II and III  
(C) III and IV  
(D) I, II, III and IV
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**7. Which one of the following statement is correct?**

- (A) Hard outer layer of pollen is called intine  
(B) Sporogenous tissue is haploid  
(C) Endothecium produces the microspores  
(D) Tapetum nourishes the developing pollen
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**8. Self-incompatibility is a device for**

- I. ensuring cross-pollination.  
II. preventing self-fertilisation.  
III. ensuring self-fertilisation.  
IV. genetic control for self-fertilisation.

**Choose the correct statements from those given above.**

- (A) I, II and III  
(B) I, II, III and IV  
(C) I, III and IV  
(D) I, II and IV
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**9. Where was the World Summit on Sustainable Development held?**

- (A) South Africa  
(B) USA  
(C) South Korea  
(D) UK
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**10. Choose the incorrect statement from the following.**

- (A) In birds and mammals, internal fertilisation takes place
  - (B) Colostrum contains antibodies
  - (C) Polyspermy in mammals is prevented by the chemical changes on the egg surface
  - (D) In the human female, implantation occurs almost seven days after fertilisation
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