

UP Board Class 12 Biology 2026 (Set 348 EL) Question Paper



General Instructions

- (i) This question paper contains 9 questions. All questions are compulsory.
- (ii) It comprises 4 single-correct multiple-choice questions.
- (iii) Attempt every question; detailed solutions are provided in the companion solutions booklet.

1(a). Testosterone hormone is synthesized and secreted by:

- (A) Epididymis
- (B) Sertoli cells
- (C) Sperm
- (D) Leydig cells

1(b). The phenotypic ratio of classical Mendelian dihybrid cross is:

- (A) 1 : 2 : 1
- (B) 3 : 1
- (C) 9 : 7
- (D) 9 : 3 : 3 : 1

1(c). The enzyme that makes a cut at a specific position within the DNA is called:

- (A) Exonuclease
 - (B) Endonuclease
 - (C) Ligase
 - (D) Polymerase
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1(d). Which of the following is an attribute characteristic of a population?

- (A) Birth rate
 - (B) Death rate
 - (C) Sex ratio
 - (D) All of the above
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2(a). Name the type of pollination found in cleistogamous flowers. Give one example.

2(b). How many chromosomes are found in primary spermatocytes and secondary oocytes of a human being?

2(c). Write the two general laws of inheritance proposed by Mendel.

2(d). Name any two autosome linked recessive disorders.

2(e). Give an example of an ecosystem where the pyramid of biomass is inverted.

3(a). Name the two strands of the structural gene DNA of a transcription unit.

3(b). Explain two phenomena which lead to variation in DNA.

3(c). Name the pathogenic organisms of the following diseases: (i) Pneumonia (ii) Amoebiasis (iii) Ascariasis (iv) Filaria.

3(d). Why is the pyramid of energy never inverted? Explain.

3(e). What do you mean by detritus and detritivores?

4(a). With the help of a suitable diagram, describe the functions of the vegetative and generative cells of mature pollen grains.

4(b). Write a short note on polyembryony.

4(c). Define linkage. Explain the effect of linkage on inheritance of two genes.

4(d). Explain transfer RNA (tRNA) as an adaptor molecule.

5(a). Comment upon the following: (i) Addiction (ii) Autoimmune disease.

5(b). What are lymphocytes? Comment upon two special types of lymphocytes present in our body.

5(c). What is cancer? Mention its prevention and cure.

5(d). What is sewage? Describe the biological treatment of sewage in short.

6(a). Comment upon the following: (i) Cloning (ii) Transgenic plants.

6(b). Describe the method of separation and isolation of fragments generated on cutting of DNA by restriction endonuclease.

6(c). Explain the application of biotechnology in agriculture.

6(d). Describe the different types of ecological pyramids in brief.

7. Define oogenesis. Describe the process of oogenesis with a diagram.

OR

Write explanatory notes on the following: (i) Sterilization (ii) Infertility.

8. Describe the technique and application of DNA fingerprinting.

OR

Write notes on the following: (i) Chromosomal aberrations (ii) Pedigree analysis.

9. Describe the different population interactions with suitable examples.

OR

Comment upon the following: (i) Biodiversity hotspots (ii) Productivity.