

2023

Time : 3 hours

Full Marks : 60

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from all the Groups as directed.

Group – A
(Compulsory)

1. Answer all of the following : 1×10 = 10
- (a) In chloroplasts, where do light reactions occur :
- (i) Outer membrane
 - (ii) Inner membrane
 - ✓(iii) Thylakoid membrane
 - (iv) Stroma
- (b) Most effective light for stomatal opening is :
- ✓(i) Red
 - ✓(ii) Blue
 - (iii) Green
 - (iv) Yellow

- (c) Diffusion of water through semi permeable membrane is :
- ✓(i) Osmosis
 - (ii) Imbibition
 - (iii) Translocation
 - (iv) Diffusion
- (d) Uneven distribution of which of the following results in the phototropic curvature ?
- ✓(i) Phytochrome
 - (ii) Cytokinin
 - (iii) Gibberellin
 - ✓(iv) Auxin
- (e) The Pyramid that cannot be inverted in a stable ecosystem is Pyramid of :
- (i) Number
 - ✓(ii) Energy
 - (iii) Biomass
 - (iv) All of these
- (f) Place where the threatened animals and plants are protected for special care is known as ?
- (i) In-situ Conservation
 - (ii) Ex-situ Conservation
 - ✓(iii) Wildlife Sanctuary
 - (iv) National Park
- (g) Which of the following is a Major Greenhouse Gas ?
- (i) Ozone
 - (ii) Oxygen
 - ✓(iii) CFCs
 - (iv) All of these

(h) Which of the following food items is the best source of Plant Proteins ?

- (i) Rice
- (ii) Apple
- (iii) Berries
- (iv) Legumes

(i) Which of the following trees provide timber ?

- (i) Sal
- (ii) Mahogany
- (iii) Teak
- (iv) All of these

(j) Which of the following plants is used to make medicines ?

- (i) Centella
- (ii) Tulsi
- (iii) Ashwagandha
- (iv) All of these

Group – B

2. Write short notes on any four of the following :

5×4 = 20

- (a) Pachytene
- (b) Cytokinesis
- (c) Diffusion
- (d) Gregor Johann Mendel
- (e) Photorespiration
- (f) Gibberellins
- (g) Xerophytes
- (h) Biodiversity

Group – C

Answer any three of the following questions :

10×3 = 30

- 3. With the help of well labelled diagram describe the ultrastructure and functions of Mitochondria.
- 4. Explain with suitable example Mendel's principle of independent assortment.
- 5. Give an account of Calvin Cycle.
- 6. Define Ecosystem. Describe structure and functions of Pond Ecosystem.
- 7. What is Pollution ? Describe water pollution, its causes and remedies.
- 8. What is Cereal ? Describe the morphology, systematic position, economic importance and edible parts of two cereal plants.
- 9. Give a detailed account of two medicinal plants of Jharkhand with its systematic position, economic importance and edible parts.

