

2022

BOTANY

(Honours)

Paper Code : V - A & B

(New Syllabus)

Full Marks : 70

Time : Three Hours

Paper Code : V - A

(Marks : 14)

Choose the correct answer.

Each question carries 1 Mark.

1. Who proposed the Tunica Corpus theory —
 - (A) Hofmeister
 - (B) Schmidt
 - (C) Hanstein
 - (D) Curtis.
2. Living fossils are called —
 - (A) Neoendemic
 - (B) Relicendemic
 - (C) Palaeoendemic
 - (D) Pseudoendemic
3. Viviparous germination is a characteristic feature of —
 - (A) Mangroves
 - (B) Mesophytes
 - (C) Pteridophytes
 - (D) Xerophytes
4. The succession of plant community in ponds, lakes, etc. is termed as —
 - (A) Hydroseral succession
 - (B) Phytoplankton stage
 - (C) Xerosere succession
 - (D) Amphibious succession

5. The pioneer plants in xerosere are —
- (A) Crustose lichen
 - (B) Foliose lichen
 - (C) *Polytrichum*
 - (D) *Grimia*
6. A population having phenotypic plasticity and adapted to local environmental conditions are called —
- (A) Cline
 - (B) Ecotone
 - (C) Ecotype
 - (D) Locally adapted Population
7. A unique example of nuclear endosperm is —
- (A) Liquid syncytium
 - (B) Perisperm
 - (C) Coconut meal
 - (D) Coconut milk
8. Who wrote “Studies on Endemic flora of India and Burma” —
- (A) J.D. Hooker
 - (B) D. Chatterjee
 - (C) C.B. Clarke
 - (D) C.C. Calder
9. Which of the following is a tetrasporic type of embryo sac —
- (A) *Adoxa type*
 - (B) *Oenothera type*
 - (C) *Allium type*
 - (D) *Endymion type*
10. The two important hot spots regions of India are —
- (A) Northeastern India and Temperate Forest
 - (B) Eastern Himalaya and Western Ghat
 - (C) Western Himalaya and Eastern Ghat
 - (D) Bhutan and Eastern India

11. Seed bank is a part of —
- (A) *Ex-situ* conservation
 - (B) *In-situ* conservation
 - (C) *In-vitro* conservation
 - (D) *In-vivo* conservation
12. Which of the following is made up of dead cells —
- (A) Collenchyma
 - (B) Phellem
 - (C) Phloem
 - (D) Xylem parenchyma
13. *Brassica juncea* is an indicator plant of —
- (A) Chromium contaminated area
 - (B) Nickel contaminated area
 - (C) Copper contaminated area
 - (D) Cadmium contaminated area
14. A species facing extreme risk of Extinction in the immediate future is referred to as —
- (A) Endemic
 - (B) Critically Endangered
 - (C) Vulnerable
 - (D) Extinct
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Paper Code : V - B

(Marks : 56)

*The figures in the margin indicate full marks.
Candidates are required to give their answers in their
own words as far as practicable.*

Group - A

1. Answer any two of the following : 4×2=8
- (a) Write a short note on “Red Data Book”. 4
- (b) Compare fundamental and realized niche. 4
- (c) Write a short note on endemism. 4
- (d) Write the significance of phosphorus cycle. 4
2. Answer any *two* of the following : 10×2=20
- (a) Discuss the role of plant indicators in environmental monitoring. What are ecoclines and ecads? 6+4=10
- (b) Define biogeochemical cycle. Give an illustrative account on Nitrogen cycle. 2+8=10
- (c) Write short notes on the following : 2.5×4=10
- (i) Biosphere reserve
- (ii) Endemism
- (iii) Hot Spot
- (iv) Cryopreservation
- (d) Mention the different phytogeographical regions of India indicating the different areas included - according to D Chatterjee (1960). 10

Group - B

3. Answer any *two* of the following : 2×4=8
- (a) Write a short note on “Korper-Kappe” theory. 4
- (b) Discuss the role of cambium in secondary growth. What is torus? 3+1=4
- (c) Distinguish between anomalous secondary growth of *Bignonia* and *Boerhavia*.
- (d) Distinguish between microsporogenesis and microgametogenesis.
4. Answer any *two* of the following : 10×2=20
- (a) What is root-stem transition ? Discuss the different types of root-stem transition in angiosperms. 2+8=10
- (b) What is stele ? Describe the different types of stele found in vascular plants with example. What is a leaf gap ? 2+7+1=10

(5)

- (c) What is an endosperm ? Describe the development of different types of endosperms with suitable diagrams. 2+8=10
- (d) What are monosporic, bisporic and tetrasporic embryo sac ? Describe the development of embryo in *Capsella bursa-pastoris* with neat labeled diagram. 3+7=10
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