



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 3rd Semester Examination, 2022-23

BOTACOR05T-BOTANY (CC5)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words as far as practicable
All symbols are of usual significance.*

1. Answer *all* the following questions: 1×6 = 6
- (a) What is Caryopsis?
 - (b) Differentiate between Gynostegium and Gynostemium.
 - (c) What is Tylosis?
 - (d) Distinguish between Leptocentric and Hadrocentric vascular bundle.
 - (e) What is Kranz anatomy? Where it is found?
 - (f) Define Plasmodesmata.

2. Answer the following questions (any *eight*) taking at least *one* question from each group: 3×8 = 24

GROUP-A

- (a) Mention the families where you find the following $\frac{1}{2} \times 6 = 3$
- (i) Syngenesious stamen
 - (ii) Tetrodynamous stamen
 - (iii) Verticillaster Inflorescence
 - (iv) Siliqua type of fruit
 - (v) Basal Placentation
 - (vi) Gynobasic style
- (b) Mention different types of aestivation with diagrams. 2+1
- (c) (i) Differentiate between Definite and Indefinite Inflorescence. $1\frac{1}{2} + 1\frac{1}{2}$
- (ii) Distinguish between Aggregate and Multiple fruit.

GROUP-B

- (d) (i) Define Idioblast. 1+2
- (ii) How would you differentiate Dicot stem from Monocot stem anatomically?
- (e) What is Periderm? Draw and describe the structure of Periderm. 1+2
- (f) Comment on the role of plant anatomy in Taxonomy. 3
- (g) Briefly discuss the anatomical adaptation of Xerophytes. 3

- (h) Mention the stomatal types found in the following families $\frac{1}{2} \times 6 = 3$
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|-------------------|----------------------|
| (i) Ranunculaceae | (ii) Brassicaceae |
| (iii) Rubiaceae | (iv) Caryophyllaceae |
| (v) Lamiaceae | (vi) Poaceae. |
- (i) Mention the prime differences between stomata and hydathode. 2+1
State the living component of Xylem and non-living component of Phloem. 3
- (j) State the Korper-Kappe theory of root apex. 2+1
- (k) (i) Differentiate between Collateral and Bicollateral vascular bundles with example. 2+1
(ii) Distinguish between ring porous and diffuse porous wood. 2+1
- (l) What are the different types of parenchyma? State their functions. 2+1
3. Answer any *two* questions from the following (*one* from each group): 5×2 = 10
- GROUP-A**
- (a) (i) Mention different types of dry dehiscent fruit with examples. 3+2
(ii) Mention the edible parts of Litchi, Apple, Orange and Pomegranate.
- (b) Define cohesion and adhesion of stamens. With suitable diagram and examples mention the different types of cohesion of stamens. 2+3
- GROUP-B**
- (c) Describe in brief the secondary growth of a typical root. 5
- (d) (i) Write the difference between adcrustation and incrustation. 3+2
(ii) What is Fusiform and Ray initials?