

Total No. of Printed Pages—3

5 SEM TDC BOT M 5

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(November)

BOTANY

(Major)

Course : 505

(Functional and Chemical Biology)

Full Marks : 48

Pass Marks : 19 (Backlog)/14 (2014 onwards)

Time : 2 hours

*The figures in the margin indicate full marks
for the questions*

1. (a) Choose and write the correct answer of the following : 1×3=3
- (i) Colchicine / Cocaine / Atropine / Cytosine is not an alkaloid.
 - (ii) Fat/Amino acid/Chlorophyll/Terpenoid is a secondary metabolite.
 - (iii) Auxin/Gibberellin/Abscisic acid is a growth-inhibiting hormone.

(2)

(b) Fill in the blanks : $1 \times 2 = 2$

(i) Chlorosis is a condition in which leaves produce insufficient _____.

(ii) _____ alkaloid extracted from *Rauwolfia* is used in the treatment of hypertension.

2. Write short notes on the following : $3 \times 3 = 9$

(a) Function of messenger RNA

(b) Metabolic pathway in plants

(c) Flavonoids

3. (a) What are secondary metabolites? What are the various types of plant secondary metabolites? Give an account of biological role of alkaloids. $3 + 4 + 4 = 11$

Or

(b) What are phenolics? What are their properties? Discuss the various roles of phenolics. $2 + 3 + 6 = 11$

4. (a) What are source and sink in plants? Write briefly about the biochemical activities involved in source-sink relationship in plants. $3 + 8 = 11$

Or

- (b) What are lipids? Mention the different categories of lipids. Give a brief account of the biological function of lipids.

3+4+4=11

5. Write short notes on any *four* of the following :

3×4=12

- (a) Terpenoids
- (b) Function of chlorophyll
- (c) Phytochrome
- (d) Storage products in plants
- (e) Metabolic concept
- (f) Physiological role of auxin
