5 SEM TDC BOT M 5

2 0 1 8

(November)

BOTANY

(Major)

Course : 505

(Functional and Chemical Biology)

Full Marks : 48

Pass Marks : 19/14

Time : 2 hours

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

1. *(a)* Choose the correct answer of the
following :   1×3=3

   (i) Cellulose/Starch/Inulin   is   a
   polymer of fructose.

   (ii) The lost amino acid of a polypeptide
   chain is known as methionine/
   N-terminal amino acid/C-terminal
   amino acid.

   (iii) Peroxidase/Lygase/Protease breaks
   down hydrogen peroxide to water
   and oxygen.

(Turn Over)

(b) Fill in the blanks :   1×3=3

    (i) Dietary proteins are the sources of
_____.

    (ii) In a polysaccharide the individual monosaccharides are linked by _____ bonds.

    (iii) _____ are covalently attached to many different proteins to form glycoproteins.

(c) Write short notes on the following : 3×3=9

    (i) Photosynthetic pigments

    (ii) Unsaturated fatty acids

    (iii) Glycosidic bonds

2. What are the nitrogenous bases of nucleic acid? Define nucleosides and nucleotides. Write about the functions of nucleotides and define Chargaff's rule.   2+2+4+3=11

Or

What are phytohormones? Discuss briefly the role of gibberellins and abscisic acid in plants.   2+4½+4½=11

3. Define source and sink relationship, and elaborate its mechanisms. 3+7=10

Or

How can you differentiate primary and secondary metabolites in plants? Write briefly the biological role of phenols and alkaloids. 2+4+4=10

4. Write short notes on (any *four*) : 3×4=12

(a) Functions of auxin

(b) Biological functions of lipids

(c) Polysaccharides as reserve food material

(d) Anthocyanins

(e) Flavonoids

(f) Reducing and non-reducing sugar

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