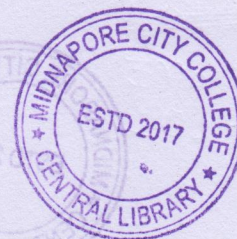


Third Semester Examination-2018**M.Sc. BOTANY**

Paper Code: BOT-302

PLANT PHYSIOLOGY & BIOCHEMISTRY

Full Marks : 40

Time: 2 Hours

Write the answer for each unit in separate Sheet**Unit –I**

(PLANT PHYSIOLOGY)

1. Answer any two questions of the following:**2×2=4**

- a) Name the precursor molecule for biosynthesis of GA₃ and ethylene.
- b) What are in dole and non – in dole auxins?
- c) Write down the full forms of TIBA and TTC.
- d) Name one respiratory and one photo respiratory inhibitor.

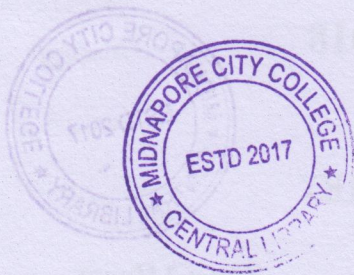
2. Answer any two questions of the following:**4×2=8**

- a) Write down the role on seed germination.
- b) Schematically represent Glyoxalate cycle.
- c) Enumerate the criteria for achieving the status of a true Phytohormone.
- d) Explain critical day length with respect to short and long day plants.

3. Answer any one question of the following:**8×1=8**

- a) i) Schematically represent the compartmentalised reactions of photorespiration. **5+3=8**
- ii) Discuss in brief hormonal regulation for advanced and delayed ripening of fruity.
- b) Define excrescence. How does it differ from abscission? What are monocarpic and polycarpic senescence? Enumerate the major biochemical changes occurring during leaf senescence. **1+2+2+3=8**

(Turn Over)



Unit – II
(BIOCHEMISTRY)

4. Answer any two questions of the following: 2×2=4

- a) What is Gibbs free energy?
- b) Write down the full forms of PUFA and MUFA.
- c) Write down the chemical structure of a monoamino mono carboxylic amino acid mentioning its name.
- d) What is Beed lack inhibition of an enzyme?

5. Answer any two questions of the following:

4×2=8

- a) Write down Michaelis – Men ten equation.
- b) Give an outline classification of carbohydrates.
- c) With a neat sketch briefly describe the nodulation process in roots of byuminous plants.
- d) Write short notes on saturated and unsaturated fatty acids.

6. Answer any one question of the following:

8×1=8

a) i) What do you mean by non-protein amino acid? Describe the primary and secondary structures of protein. 1+4

ii) Explain detailed mechanism of enzyme inhibition. What are ribozymes? 2+1

b) i) Give an outline classification of enzymes citing one example from each (5+1)+2 class. Name two non-protein enzymes.

ii) Enumerate the major factors affecting enzyme activity.
