Bachelor of Science (B.Sc.) Sixth Semester

B.Sc. 4507 - Botany Paper-I (Plant Physiology, Growth and Development)

P. Pages : 2 **GUG/W/18/1336**

Time : Three Hours * 1 0 4 9 * Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw suitable diagrams wherever necessary.

1. Write in detail Red drop and Emerson's enhancement effect and two Pigment system. **10**

OR

Write on

a) Difference between Aerobic and anaerobic respiration. **5**

b) Glycolysis. **5**

2. What are growth hormones? Explain the role of auxin and cytokinin. **10**

OR

Write on-

a) Causes of Seed dormancy. **5**

b) Phytochrome. **5**

3. Write short notes on -

a) Non-cyclic Photophosphorylation. **2½**

b) Respiratory Quotient. **2½**

c) Seismonastic Movement. **2½**

d) Vernalization. **2½**

OR

e) Cyclic Photophosphorylation. **2½**

f) Respiratory substrates. **2½**

g) Thigmotropism. **2½**

h) Role of florigen. **2½**

4. Write short notes on –

a) Factors affecting photosynthesis. **2½**

b) Structure of ATP. **2½**

c) Different phases of growth and development. **2½**

d) Methods to break seed dormancy. **2½**

OR

e) CAM Pathway. **2½**

f) ETS. **2½**

g) Geotropism. **2½**

h) Circadian rhythm. **2½**

5. Write answers in two to three lines only. Diagrams are not necessary **any ten.** **10**

a) The grana.

b) Essential Photosynthetic Pigment.

c) C_3 Plants.

d) Acetyl Co-A.

e) Citric Acid cycle.

f) Oxidative Phosphorylation.

g) Ethylene.

h) Chemotropism.

i) Nastic movements.

j) Day neutral plants.

k) Short day plants.

l) Senescence.

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