

Time Allowed : Three Hours

Maximum Marks : 36

Note : Attempt five questions in all, selecting at least one question from each Unit. Question No. I is compulsory.

1. (A) Multiple choice questions.

- (i) The flowers of Crocus and Tulipa show :
- (a) Photonasty (b) Hyponasty
(c) Thermonasty (d) None of these
- (ii) Which of the following hormone is responsible for degreening of citrus fruits ?
- (a) ABA (b) Cytokinin
(c) Ethylene (d) None of these
- (iii) The empirical formula of chl a is :
- (a) $C_{55}H_{70}O_6N_4Mg$ (b) $C_{55}H_{72}O_5N_4Mg$
(c) $C_{55}H_{72}O_6N_4Mg$ (d) None of these
- (iv) is called "Father of plant tissue culture".
- (a) G. Haberlandt (b) G. Morel
(c) Skoog (d) None of these
- (v) RQ is less than unity in :
- (a) Fat & Protein (b) Organic acids
(c) CAM plants (d) None of these
- (vi) Which of the following is last electron acceptor in oxidative phosphorylation ?
- (a) Hydrogen (b) Oxygen
(c) Water (d) ATP.

(B) Fill in the blanks :

- (i) acts as a fusogenic agent for somatic hybridization.
- (ii) The rate of respiration increases during the absorption of salt. This increase in rate of respiration is called
- (iii) prevents breakdown of chlorophyll hence delays senescence in plants as hormone.
- (iv) hormone is responsible for the inhibition of lateral buds.
- (v) The cells most commonly used for parasexual hybridization are
- (vi) The first stable product in C_3 plants is $1 \times 12 = 12$

UNIT-I

3 each

2. Write an accounts on :
 - (a) Difference between Photosystem I and Photosystem II.
 - (b) Hatch-Slack cycle or C_4 cycle.
3. Write an account on :
 - (a) Z-scheme of Non-cyclic photophosphorylation
 - (b) Photorespiration.

UNIT-II

3 each

4. Write an accounts on :
 - (a) Glycolysis
 - (b) Difference between aerobic and anaerobic respiration
5. Write notes on :
 - (a) Krebs cycle
 - (b) Importance of fermentation

UNIT-III

3 each

6. Write an account on :
 - (a) Physiological role of Cytokinin
 - (b) Photoperiodism
7. Write an account on :
 - (a) Florigen
 - (b) Physiological role of Auxin

UNIT-IV

3 each

8. Write an account on :
 - (a) Parasexual hybridization
 - (b) Cell suspension culture
9. Write notes on :
 - (a) Meristem culture
 - (b) Applications of plant tissue culture