

SEM	SET	PAPER CODE	TITLE OF THE PAPER
II	2014	14PBO2106	PLANT PHYSIOLOGY

SECTION - A**Answer all the questions:****30 × 1 = 30****Choose the correct answer:**

- If the water potential of plant tissue is less than the water potential of the soil
 - Water flows of the plant
 - Water is lost to the soil
 - Salts will not diffuse
 - None of the above
- A cell becomes turgid when placed in
 - Isotonic solution
 - Hypertonic solution
 - Hypotonic solution
 - Concentrated solution
- When a cell is fully turgid, which one of the following is zero?
 - Turgor pressure
 - Wall pressure
 - Diffusion pressure deficit
 - Osmotic pressure
- Active K⁺ exchange mechanism for the opening and closing of stomata was given by
 - Devlin
 - Levitt
 - Seath
 - Khorana
- Mineral salts which are absorbed by the roots from the soil are in the form of
 - Dilute solution
 - Very dilute solution
 - Concentrated solution
 - Very concentrated solution
- Ion uptake is called active because
 - Ions moves freely
 - Energy is expended
 - Ions are active
 - Ions move passively

7. During light phases of photosynthesis _____ is oxidized and _____ is reduced.
- a) CO₂ and water b) Water and CO₂
c) Water and NADP d) NADPH₂ and CO₂
8. The first stable product of Calvin cycle is a
- a) 2 carbon compound b) 3 carbon compound
c) 4 carbon compound d) 6 carbon compound
9. C₄ plants operate
- a) Calvin cycle only b) Hatch and Slack cycle only
c) Hatch and Slack and Calvin cycle d) Hatch and Slack and Krebs's cycle
10. In sugarcane plant ¹⁴CO₂ is fixed in malic acid, in which the enzyme that fixes CO₂ is
- a) Ribulose phosphate kinase
b) Ribulose biphosphate carboxylase
c) Fructose phosphatase
d) Phosphoenol pyruvic acid carboxylase
11. The family in which many plants are C₄ type?
- a) Malvaceae b) Cruciferae
c) Solanaceae d) Graminae
12. Stomata of CAM plants
- a) Never open b) Are always open
c) Open during the day and close at night d) Open during the night and close during the day
13. How many molecules of ATPs are synthesized per NADH oxidation?
- a) One b) Two
c) Three d) Four
14. What substance is produced by the oxidation of pyruvate and feeds into the citric acid cycle?
- a) Pyruvic acid b) Glucose
c) Acetyl – CoA d) CO₂

15. During aerobic respiration, FADH₂ is produced in
- a) Glycolysis
 - b) Oxidation of pyruvate
 - c) Kerbs cycle
 - d) Electron transport chain
16. What role does O₂ play in aerobic respiration?
- a) It combines with acetyl-CoA and start of the Cirtic acid cycle
 - b) It is given off as a by product during the oxidation of pyruvate
 - c) It combines with water and help drive the formation of ATP
 - d) It is the final electron acceptor of electron transport chain
17. The final output of Kerb's cycle includes all of the following except
- a) NADP
 - b) FADH₂
 - c) ATP
 - d) CO₂
18. The pentose phosphate pathway represents an oxidation / reduction. What is the most reduced product of this pathway?
- a) CO₂
 - b) ATP
 - c) NADH
 - d) CH₄
19. Plants cannot absorb molecular N₂ from the atmosphere because
- a) N₂ has double bond making it highly stable
 - b) Abundance in the atmosphere inhibits absorption
 - c) N₂ has triple bond making it highly stable
 - d) None of the above
20. The process of conversion of NO₃ to N₂ is called
- a) Nitrification
 - b) Denitrification
 - c) Ammonification
 - d) Nitrogen fixation
21. This plant hormone inhibit the effects of other hormones.
- a) Auxin
 - b) Ethylene
 - c) Abscisic acid
 - d) Gibberellins
22. This is produced during ripening of fruit.
- a) Auxin
 - b) Cytokinin
 - c) Gibberellins
 - d) Ethylene

23. Hormone responsible for senescence is
- a) Abscisic acid
 - b) Auxin
 - c) Gibberellin
 - d) Cytokinin
24. A response based on the proportion of light to darkness in a 24hr cycle is called
- a) Alternation of generation
 - b) Etiolation
 - c) Translocation
 - d) Photoperiodism
25. The condition that is needed by most seeds to break dormancy is
- a) Exposure to moisture
 - b) Exposure to heat
 - c) Exposure to cold
 - d) Abrasion of the seed
26. Many plants have seeds that are stimulated to germinate by
- a) Exposure to red light
 - b) Stimulation by auxin
 - c) Exposure to ethylene
 - d) Insect pollinator
27. When a cereal grain germinates amylase and other hydrolytic enzymes are secreted by
- a) Endosperm
 - b) Aleurone layer
 - c) Scutellum
 - d) Suspensor
28. Increasing the proportion of unsaturated fatty acids in their membranes is a response of plants to
- a) Cold stress
 - b) Salt stress
 - c) Oxygen deprivation
 - d) Water deficit
29. How are heat-shock proteins thought to work?
- a) They regulate stomatal opening and closing
 - b) They help other proteins retain their functional shapes
 - c) They facilitate uptake of water
 - d) They increase water potential
30. The production of organic solutes by plants is a response to
- a) Salt stress
 - b) Oxygen deprivation
 - c) Water deficit
 - d) Herbivory
