

CET (PG)-2018

Sr. No. : **110230**

Booklet Series Code : A

Important : Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No.

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(In Figures) *(In Words)*

O.M.R. Answer Sheet Serial No.

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Signature of the Candidate :

Subject : Subject : M.Sc. (Hons. School/2 Years Course)–BOTANY

Time : 90 minutes] [Maximum Marks : 75

No. of Questions : 75] [Total No. of Printed Pages : 15

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS :

1. Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Subject and Series Code of Question Booklet on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point / Black Gel Pen**.
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. To open the Question Booklet remove the paper seal gently when asked to do so.
5. Please check that this Question Booklet contains 75 questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of test.
6. Each question has four alternative answers (A, B, C, D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point / Black Gel Pen**.
7. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Sheet. No marks will be deducted in such cases.
8. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
9. Negative marking will be adopted for evaluation i.e., 1/4th of the marks of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.
10. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
11. For rough work only the sheets marked "**Rough Work**" at the end of the Question Booklet be used.
12. The Answer Sheet is designed for **computer evaluation**. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e., not following the instructions completely, shall be of the candidate only.**
13. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
14. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so, would be expelled from the examination.
15. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
16. **Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculator is not allowed.**

- The formation of stable ice crystals due to freezing of plant cells is :**
(A) Protoplast dehydration (B) Theoretical freezing
(C) Ice nucleation (D) Super cooling
- Which of the following trees would die quicker ?**
(A) Hollow hearted (B) Girdled
(C) Deciduous (D) Pruned
- Immature almond is bitter in taste due to presence of a secondary metabolite amygdalin, which is a :**
(A) Alkaloid (B) Glycoside
(C) Phenol (D) Triterpene
- Ammonia poisoning occurs in temperature sensitive plants at :**
(A) Low temperature (B) Moderate hydrated tissues
(C) High temperature (D) Very high hydrated tissues
- Hydrolysis of fats with alkali is :**
(A) Rancidity (B) Emulsion
(C) Saponification (D) Halogenation
- The atoms with higher atomic number and lesser atomic radius have :**
(A) Lower electro-negativity (B) Higher electro-negativity
(C) Lower electrostatic attraction (D) Higher electrostatic attraction
- The chemical nature of guanine found in both RNA and DNA is :**
(A) 6-amino purine (B) 2-amino-6-oxypurine
(C) 2,4-dioxypyrimidine (D) 2-oxy-4-aminopyrimidine
- The characteristic musky smell in the seeds of lady's finger, *Abelmoschus esculentus* is due to a wax :**
(A) Ambretolide (B) Hexacosanol
(C) Lecithins (D) Spermaceti

9. A bond formed between two atoms (such as C-C, H-H and F-F) with equal sharing of electrons will be :
- (A) Dipolar bond (B) Polar bond
(C) Non-polar bond (D) Peptide bond
10. Most of the swollen part of fleshy root is comprised by hypocotyl in :
- (A) Radish (B) Carrot
(C) Turnip (D) Beet
11. Raceme of Racemes is also termed as :
- (A) Corymb (B) Umbel
(C) Spadix (D) Panicle
12. The inflorescence in *Euphorbia* species is :
- (A) Verticillaster (B) Cyathium
(C) Cymose head (D) Capitulum
13. The fruit of *Litchi* is :
- (A) Succulent and single seeded (B) Succulent and many seeded
(C) Dry and single seeded (D) Dry and many seeded
14. Censer mechanism for dispersal of seeds occur in :
- (A) Poppy (B) *Calotropis*
(C) *Sonchus* (D) *Albizia*
15. The pericarp is not differentiated into epicarp, mesocarp and endocarp in :
- (A) Berries (B) Drupes
(C) Pomes (D) Coconut
16. The example of leaf opposed stem tendrils is :
- (A) *Cucurbita* (B) Grape-vine
(C) *Passiflora* (D) *Antigonon*

17. Which of the following diseases is caused by bacteria ?

- (A) Late blight of Potato (B) Powdery mildew of wheat
(C) Citrus canker (D) Tobacco mosaic

18. The drug, Pencillin, prepared from a species of fungus :

- (A) *Penicillium expansum* (B) *Penicillium chrysogenum*
(C) *Penicillium digitatum* (D) *Penicillium italicum*

19. Plant cells are protected from the effects of ultra-violet rays by :

- (A) Water (B) Cell-wall
(C) Anthocyanins (D) Plasma membrane

20. Cilia and flagellates originates from :

- (A) Mitochondria (B) Plastids
(C) Centrioles (D) Endoplasmic reticulum

21. The nature of crop grain is :

- (A) Aerodynamic (B) Hygroscopic
(C) Wet and dry (D) Humid

22. The permanent taste in ginger is due to :

- (A) Oil (B) Minerals
(C) Resins (D) Starch

23. 'Caudex stem' is found in :

- (A) Coconut (B) Mango
(C) Neem (D) Peepal

24. The loculicidal dehiscence is observed in :

- (A) *Datura* (B) Cock's comb
(C) Lady's finger (D) *Papaver*

25. The common name of *Dianthus caryophyllus*, an important commercial flower is :
(A) Amaryllis (B) Daisy
(C) Carnation (D) Dahlia
26. Reticulate venation in leaves is characteristic of :
(A) Dicots (B) Monocots
(C) Pteridophytes (D) Xerophytes
27. Well known fossil bryophyte is :
(A) *Lejeunea* (B) *Pogonatum*
(C) *Naladlta* (D) *Sphagnum*
28. Stone cells are also known as :
(A) Brachysclereids (B) Osteosclereids
(C) Macrosclereids (D) Trichoblasts
29. The meristematic cells of vascular cambium are _____ in shape.
(A) Fusiform (B) Polygonal
(C) Irregular (D) Isodiametric
30. Diffusion of water into endodermis takes place through :
(A) Casparian strips (B) Passage cells
(C) Sieve tubes (D) Special pores
31. The amount of energy required to raise the temperature of a unit mass of a substance by 1°C is called its :
(A) Latent heat (B) Heat of vaporization
(C) Specific heat (D) Endothermic energy
32. Which of the following is an abnormal and injurious process ?
(A) Photosynthesis (B) Chemosynthesis
(C) Photorespiration (D) Photo-oxidation

33. The amount of water retained by soil after the drainage of gravitational water is :
- (A) Field capacity (B) Absorption capacity
(C) Drainage capacity (D) Capillary water
34. The value of water potential of pure water is :
- (A) Zero (B) 0.987 atm
(C) 10^6 dynes m^2 (D) 10^8 dynes m^2
35. The tendency of colloidal particles to attract and retain other particles at their surface is :
- (A) Adsorption (B) Absorption
(C) Gelation (D) Solation
36. Which of the following is more resistant to high temperature stress ?
- (A) Low hydrated tissues (B) Moderate hydrated tissues
(C) High hydrated tissues (D) Very high hydrated tissues
37. During germination of barley, the enzyme α -amylase is secreted by :
- (A) Seed coat (B) Aleurone layer
(C) Coleorhizae (D) Coleoptiles
38. Which of the following hormones can replace vernalization ?
- (A) Auxins (B) GA
(C) Cytokinins (D) Ethylene
39. Which of the following in higher concentration favours growth of paddy crops ?
- (A) Auxin (B) GA
(C) ABA (D) Ethylene
40. The biological activity of IAA is tested by :
- (A) α -amylase test (B) Avena-curvature test
(C) Soybean callus test (D) Xanthium leaf-disc test

41. Putrefaction yield unpleasant odour due to evolution of :
(A) CO_2 gas (B) NH_3 gas
(C) SO_2 gas (D) H_2S gas
42. Chemical substances responsible for growth of pollen-tube are present in _____ of flower.
(A) Calyx (B) Corolla
(C) Thalamus (D) Carpel
43. Statocysts are :
(A) Air-cells (B) Chlorophyll cells
(C) Fibre-cells (D) Sensory cells
44. Apical dominance is caused by :
(A) Gibberellins (B) Auxin
(C) Kinetin (D) Ethylene
45. The most efficient precursor of ethylene is :
(A) Adenine (B) Thiocarbonate
(C) Zeatin (D) Methionine
46. Deficiency of oxygen during mitosis :
(A) Shortens the cycle period (B) Extends the cycle period
(C) Has no effect on the process (D) Cause polyploidy
47. The signal transduction of _____ hormone is negatively regulated.
(A) Auxin (B) GA
(C) Cytokinin (D) Ethylene
48. Tomato fruit becomes red due to :
(A) Anthocyanin (B) Lycopene
(C) Carotin (D) Xanthophyll

49. Which of the following radicals is most toxic ?

- (A) OH^- (B) O_2^-
(C) O_2 (D) H_2O_2

50. Which of the following is non-enzymatic antioxidant ?

- (A) Peroxidases (B) Ascorbate peroxidase
(C) Superoxide dismutase (D) α -Tocopherol

51. Blue-baby syndrome is due to :

- (A) Mercury poisoning
(B) Higher concentration of nitrate in drinking water
(C) O_3
(D) CH_4

52. Conservation of the local varieties of crops is very essential because of :

- (A) High yields and nutrition
(B) Maintaining our past knowledge about all plants and animals
(C) The sources of genes for genetic diversity
(D) Economic prosperity of local farmers

53. Name of the chemical added to water to inhibit or retard growth of algae is :

- (A) CuSO_4 (B) CaCl_2
(C) Gypsum (D) Benzoate

54. Nicobar island is part of which of the following Biodiversity hotspots ?

- (A) Indo Burma (B) Sundaland
(C) Western Ghats (D) Eastern Himalayas

55. pH of water is acidic (<7.0) because of :

- (A) Carbonic acid (B) Room temperature
(C) High ratio of OH^- ions (D) Tetrahedral carbon

56. Ozone depletion in stratosphere shall result in :
 (A) Increased incidence of skin cancer (B) Global warming
 (C) Forest fire (D) Soil erosion
57. The gene which suppresses the action of a gene at other locus is called :
 (A) Lethal (B) Penetrance
 (C) Pleiotropic (D) Epistatic
58. Self incompatibility is known phenomenon in all _____ vegetable species.
 (A) Brinjal (B) Tomato
 (C) Brassica (D) Carrot
59. Which cellular organelle is involved in the initiation of intrinsic pathway of apoptosis ?
 (A) Endoplasmic reticulum (B) Lysosomes
 (C) Mitochondria (D) Peroxisomes
60. Heteroduplex DNA is formed by :
 (A) Physiological factors (B) Deletion
 (C) Mutation (D) Recombination
61. Which one of the following ions plays an important role in growth of pollen tube ?
 (A) Calcium (B) Chlorine
 (C) Magnesium (D) Sulphate
62. Which of the following types is a Tetrasporic embryo sac ?
 (A) *Polygonum* (B) *Oenothera*
 (C) *Allium* (D) *Drusa*
63. "Zonula occludens" is :
 (A) Scientific name of rare and extinct plant species of Himalayas
 (B) Tight junction between two cells with fused membranes without extracellular space
 (C) Space between two centriole surrounded by mass of dense material to make centrosome
 (D) Space between two nuclei in eukaryotic cells

64. Pseudopodia are :
- (A) Cilia (B) Cytoplasmic projections
(C) Flagella (D) Vacuoles
65. Collenchyma cells with wall thickenings localized to the junction between cells are :
- (A) Angular (B) Lamellar
(C) Lacunate (D) Tubular
66. Bakane or "foolish seedling", a seed borne fungal disease is caused due to :
- (A) Auxins (B) Ethylene
(C) Gibberellins (D) Phosphon-D
67. "Whiptail disorder" in cauliflower plant is caused by the deficiency of :
- (A) Boron (B) Manganese
(C) Molybdenum (D) Zinc
68. Which is not true about *Malva sylvestris* of the family Malvaceae ?
- (A) Androecium-5, monoadelphous (B) Corolla-5, polypetalous
(C) Fruits-schizocarpic (D) Inflorescence-axillary cymose
69. Pollinia are found in :
- (A) *Asparagus* (B) *Cycas*
(C) *Pergularia* (D) *Pinus*
70. Chitin, is a linear polymer with :
- (A) α -D-galactouronic units with α (1 \rightarrow 4) linkage
(B) N-acetyl-D-glucosamine units with β (1 \rightarrow 4) linkage
(C) 4-O-methylglucuronic acid with β (1 \rightarrow 4) linkage
(D) β -D-glucose units with β (1 \rightarrow 4) linkage

71. As per simple enzymatic reaction, the reaction equilibrium and reaction rates are linked with :
- (A) ΔG^{θ} and ΔG^* (B) ΔG^{θ} and ΔG^{θ}
(C) ΔG^*_{NE} and ΔG^*_E (D) ΔG^*_E and ΔG^*_{NE}
72. A remarkable feature for the activity of nearly all enzymes involved in glycolysis is the requirement of :
- (A) Mn^{+2} (B) Fe^{+2}
(C) Ca^{+2} (D) Mg^{+2}
73. The equilibrium constant, K_m , usually called *Michaelis constant*, is a measure of :
- (A) Enzyme affinity for its substrate
(B) Distribution coefficient between reactants and products
(C) Transition state
(D) Standard free energy at pH 7.0
74. As a result of resonance, all of the bases of nucleic acids absorb ultraviolet light, the effect is :
- (A) Hyperchromism (B) Renaturation
(C) B-form DNA (D) Mirror repeat DNA
75. Pectic substances and cellulose of wall of the root hairs are _____ in nature.
- (A) Hydrophilic (B) Hydrophobic
(C) Chemophilic (D) Thermophilic