

Seat No.

Total No. of Pages : 18

P.G. Entrance Examination 2025**M.Sc. Botany****Subject Code : 58714**

Day and Date : Tuesday, 13-May-2025**Total Marks : 100****Time : 10:30 am to 12:00 pm**

Instructions:

- 1) All questions are compulsory.
 - 2) Each question carries 1 mark.
 - 3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
 - 4) Follow the instructions given on OMR sheet.
 - 5) Rough work shall be done on the sheet provided at the end of question paper.
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1. Biotic and Abiotic factors are components of an
 - a) Tissue system
 - b) Ecosystem
 - c) Reproductive system
 - d) Transport system
2. Mushroom show high content of
 - a) protein
 - b) lipid
 - c) water
 - d) starch
3. A branch of botany that deals with study of fungi is referred as
 - a) mycology
 - b) phycology
 - c) ecology
 - d) physiology
4. In Mucor, is produced in Asexual reproduction.
 - a) Zygosporangia
 - b) Sporangiospore
 - c) fragmentation
 - d) Conidia

5. The Grassy Shoot of sugarcane is a disease
 - a) fungal
 - b) bacterial
 - c) MLO
 - d) Viral
6. In bryophytes, rhizoids are developed for
 - a) photosynthesis
 - b) mechanical support
 - c) storage of food
 - d) Absorption of water and minerals
7. Mitosis is.cell division
 - a) equational
 - b) reductional
 - c) gametogenic
 - d) abnormal
8. is recognized as Father of Taxonomy.
 - a) Linnaeus
 - b) Candolle
 - c) Theophrastus
 - d) Hooker
9. is used for poisoning of the herbarium sheets.
 - a) Mercuric chloride
 - b) Sulfuric acid
 - c) Nitric acid
 - d) Mercuric oxide
10. Biological names have been derived from.....
 - a) Sanskrit
 - b) French
 - c) German
 - d) Latin

11. contains mainly dead and decomposed material from plants and animals.
 - a) Organic matter
 - b) Rock
 - c) Wind
 - d) Pyramid
12. Vavilov proposed centre of origin of cultivated crops.
 - a) 2
 - b) 7
 - c) 11
 - d) 20
13. The genetic makeup of an organism is called its.....
 - a) Phenotype
 - b) Genotype
 - c) Allele
 - d) Chromosome
14. The process where genetic material is exchanged between homologous chromosomes is called
 - a) Segregation
 - b) Crossing over
 - c) Independent assortment
 - d) Mutation
15. is the intemode between corolla and androecium.
 - a) gynophore
 - b) androphore
 - c) filament
 - d) style
16. Cocus mucifera is the classical example of. endosperm.
 - a) helobial
 - b) cellular
 - c) nucellar
 - d) apomixis

17. When parenchyma tissue possesses chloroplast, it is referred as
- a) Parenchyma
 - b) Chlorenchyma
 - c) Collenchyma
 - d) Aerenchyma
18. Which of the following is NOT a type of ecosystem?
- a) Terrestrial
 - b) Aquatic
 - c) Atmospheric
 - d) Grassland
19. Which of the following is an abiotic factor in an ecosystem?
- a) Plants
 - b) Animals
 - c) Soil
 - d) Fungi
20. The part of clove used for commercial purposes is
- a) Flower
 - b) Stem
 - c) Leaf
 - d) Seed
21. Apomixis refers to
- a) Reproduction without fertilization
 - b) Sexual reproduction
 - c) Formation of seeds from pollen grains
 - d) Formation of seeds through self-pollination
22. The structure that houses the ovule in a carpel is the
- a) Ovary
 - b) Style
 - c) Stigma
 - d) Receptacle

23. The pollen grain is produced from
- a) Microsporogenesis
 - b) Megasporogenesis
 - c) Both a and b
 - d) Micro gametogenesis
24. Which of the following is a typical characteristic of the stamen?
- a) Ovule production
 - b) Presence of anther and filament
 - c) Presence of stigma and style
 - d) Receptivity of stigma
25. The pollen tube grows towards the ovule due to
- a) Chemotaxis
 - b) Phototropism
 - c) Gravitropism
 - d) Hydrotropism
26. The embryo in monocots typically has
- a) One cotyledon
 - b) Two cotyledons
 - c) Three cotyledons
 - d) No cotyledons
27. In gametophytic apomixis, the embryo sac develops without
- a) Fertilization
 - b) Meiosis
 - c) Microsporogenesis
 - d) The formation of the zygote

28. The female reproductive part of a flower is the
- | | |
|-------------|-----------|
| a) Stigma | b) Anther |
| c) Filament | d) Ovary |
29. In self-pollination, pollen is transferred from the anther to the.....
- | | |
|--------------------|----------------|
| a) Different plant | b) Same plant |
| c) Stigma | d) Mango plant |
30. Endosperm provides nourishment to the
- | | |
|----------------------|-----------|
| a) Seed coat | b) Ovary |
| c) Developing embryo | d) Stigma |
31. Which component is most essential for plant life?
- | | |
|-----------|-------------------|
| a) Oxygen | b) Nitrogen |
| c) Water | d) Carbon dioxide |
32. Which type of transpiration occurs through lenticels?
- | | |
|---------------|--------------|
| a) Cuticular | b) Stomatal |
| c) Lenticular | d) Guttation |
33. Water is transported in plants through
- | | |
|---------------|----------------|
| a) Phloem | b) Xylem |
| c) Parenchyma | d) Collenchyma |
34. The cells mainly involved in water transport are.....
- | |
|--------------------------|
| a) Companion cells |
| b) Tracheids and vessels |
| c) Phloem fibers |
| d) Sclerenchyma |

35. Water is absorbed mainly through
- a) Stomata
 - b) Leaves
 - c) Root hairs
 - d) Xylem
36. Micronutrients are required in
- a) Large quantities
 - b) Trace amounts
 - c) Unlimited amounts
 - d) drought condition
37. Calcium helps in
- a) Cell division
 - b) Chlorophyll synthesis
 - c) Protein synthesis
 - d) Enzyme inhibition
38. A symptom of magnesium deficiency is
- a) Interveinal chlorosis
 - b) Browning tips
 - c) Leaf curling
 - d) Purple veins
39. Root nodules in legumes help in
- a) Mineral uptake
 - b) Nitrogen fixation
 - c) Sugar transport
 - d) Water retention

40. Biotic stress includes damage from
- a) Salinity
 - b) Pathogens
 - c) Drought
 - d) Temperature
41. Totipotency is the ability of a plant cell to
- a) Divide only once
 - b) Form roots only
 - c) Differentiate into all plant tissues
 - d). Produce chlorophyll
42. Murashige and Skoog (MS) medium is primarily used for
- a) Soil analysis
 - b) Plant tissue culture
 - c) DNA isolation
 - d) Starch estimation
43. Which hormone promotes shoot formation in tissue culture?
- a) Auxin
 - b) Cytokinin
 - c) Ethylene
 - d) Gibberellin
44. Micropropagation is a method of
- a) Pesticide application
 - b) Clonal propagation using tissue culture
 - c) Genetic mutation
 - d) Gene silencing
45. Callus is defined as
- a) A group of xylem cells
 - b) A mass of undifferentiated cells
 - c) A specialized root tip
 - d) A type of seed

46. Protoplast fusion is useful in
- a) Producing hybrids from incompatible species
 - b) Root formation
 - c) Leaf propagation
 - d) RNA extraction
47. Synthetic seeds are formed by
- a) Hardening real seeds
 - b) Encapsulating somatic embryos
 - c) Freezing normal seeds
 - d) Merging stem cells
48. Golden rice is genetically modified to produce
- a) Iron
 - b) Beta-carotene (Vitamin A precursor)
 - c) Antibiotics
 - d) Protein
49. *Agrobacterium tumefaciens* is used in genetic engineering because
- a) It causes diseases
 - b) It transfers T-DNA to plant cells
 - c) It improves chlorophyll content
 - d) It kills pests
50. Which of the following is a reporter gene?
- a) GUS
 - b) NPT-II
 - c) Auxin
 - d) EPSPS

51. Floriculture involves the cultivation of
- a) Fruits
 - b) Vegetables
 - c) Flowers
 - d) Spices
52. Which fertilizer is commonly used in organic farming?
- a) Urea
 - b) Ammonium nitrate
 - c) Vermicompost
 - d) Superphosphate
53. Which irrigation method mimics natural rainfall?
- a) Drip
 - b) Sprinkler
 - c) Surface
 - d) Sub-surface
54. Sugar acts as a preservative mainly by
- a) Absorbing moisture
 - b) Killing bacteria
 - c) Reducing water activity
 - d) Adding nutrients
55. Which is a physical method of fruit preservation?
- a) Freezing
 - b) Salting
 - c) Sugaring
 - d) Adding preservatives
56. Grapes are mostly propagated through
- a) Seed
 - b) Cutting
 - e) Grafting
 - d) Budding

57. Gerbera is sensitive to
- a) Dry weather
 - b) Poor drainage
 - c) High shade
 - d) High temperatures
58. Biopesticides are derived from
- a) Synthetic chemicals
 - b) Organic fertilizers
 - c) Natural organisms
 - d) Mineral salts
59. Brinjal belongs to which plant family?
- a) Poaceae
 - b) Solanaceae
 - c) Fabaceae
 - d) Cucurbitaceae
60. Which part of the flower is used most in floral arrangements?
- a) Sepal
 - b) Androecium
 - c) Petal
 - d) Stigma
61. Ribose sugar is a component of... ..
- a) DNA
 - b) Proteins
 - c) RNA
 - d) Lipids
62. Lactose is composed of
- a) Glucose + Fructose
 - b) Glucose + Galactose
 - c) Galactose + Ribose
 - d) Glucose + Glucose
63. The structural carbohydrate found in plant cell walls is
- a) Glucose
 - b) Starch
 - c) Sucrose
 - d) Cellulose

64. Lipids are important in plants for
- a) Genetic coding
 - b) Energy storage and membranes
 - c) Enzymatic reactions
 - d) Transport of water
65. Fatty acid biosynthesis requires
- a) ATP and NADPH
 - b) DNA and RNA
 - c) Starch and sucrose
 - d) Oxygen and glucose
66. Which research type focuses on solving practical problems?
- a) Analytical
 - b) Applied
 - c) Fundamental
 - d) Quantitative
67. Which of the following is qualitative research?
- a) Statistical analysis
 - b) Numerical data collection
 - c) Observational interviews
 - d) Temperature measurements
68. A review of previous studies is called
- a) Abstract
 - b) Literature review
 - c) Hypothesis
 - d) Introduction

69. Which tool helps in tracing outlines of microscopic objects for diagrams?
- a) Micrometer
 - b) Camera Lucida
 - c) Slide scanner
 - d) Calorimeter
70. Which method involves capturing images through a microscope?
- a) Electrophoresis
 - b) Micrometry
 - c) Spectrometry
 - d) Photomicrography
71. Natural resource management aims at.....
- a) Exhausting resources quickly
 - b) Improving resource exploitation
 - c) Sustainable development
 - d) Ignoring environmental issues
72. Land degradation can be controlled by
- a) Overgrazing
 - b) Deforestation.
 - c) Afforestation
 - d) Mining
73. Green audit refers to
- a) Financial checking
 - b) Checking environmental practices
 - c) Checking herbal drug costs.
 - d) Counting plant species
74. Major forest products include
- a) Fruits
 - b) Timber
 - c) Flowers
 - d) Resin

75. Which method is used for extraction of herbal medicine?
- a) Drying
 - b) Fermentation
 - c) Solvent extraction
 - d) Grinding only
76. Which plant is used in face mask preparation?
- a) *Senegalia concinna*
 - b) *Lawsonia inermis*
 - c) *Santalum album*
 - d) *Withania somnifera*
77. Which of the following is used to prepare hair dye?
- a) *Phyllanthus emblica*
 - b) *Sapindus laurifolius*
 - c) *Lawsonia inermis*
 - d) *Aloe vera*
78. The plant *Withania somnifera* is commonly known as
- a) Amla
 - b) Ashwagandha
 - c) Giloy
 - d) Shikakai
79. Adulteration can be evaluated by
- a) Boiling
 - b) lasting
 - c) Chemical testing
 - d) Freezing
80. *Aloe vera* is popularly used in
- a) Pain relief drugs
 - b) Cold drinks
 - c) Skincare and digestive health
 - d) Pest repellents

81. Which of the following is NOT a type of biodiversity?
- a) Genetic
 - b) Species
 - c) Ecological
 - d) Cultural
82. The loss of plant biodiversity can be mainly attributed to
- a) Ex-situ conservation
 - b) Organic farming
 - c) Habitat destruction
 - d) Sacred groves
83. Ex-situ conservation includes all EXCEPT
- a) Zoological parks
 - b) Seed banks
 - c) Wildlife sanctuaries
 - d) Tissue culture labs
84. Sacred groves are an example of.....
- a) Agricultural diversity
 - b) Ex-situ conservation
 - c) Social conservation practice
 - d) Artificial selection
85. Which organization maintains plant germplasm in India?
- a) BSI
 - b) ICAR
 - c) NBPGR
 - d) FSSAI
86. Which plant is a source of 'colchicine'?
- a) Rauvolfia serpentina
 - b) Gloriosa stiperba
 - c) Abrus precatorius
 - d) Tribulus terrestris
87. Artemisia annua is a source of which compound?
- a) Reserpine
 - b) Atropine
 - c) Artemisinin
 - d) Curcumin

88. The use of plants by ethnic communities is studied under
- a) Ethology
 - b) Ethnobotany
 - c) Pathology
 - d) Pharmacology
89. Which plant is toxic due to the presence of abrin?
- a) *Abrus precatorius*
 - b) *Boerhavia diffusa*
 - c) *Vitex negundo*
 - d) *Pongamia pinnatu*
90. Which of the following is used in traditional liver tonic formulations?
- a) *Boerhavia diffusa*
 - b) *Rauvolfia serpentina*
 - c) *Andrographis paniculata*
 - d) *Plumbago zeylamca*
91. Mass selection is suitable for
- a) Asexually propagated plants
 - b) Vegetables only
 - c) Cross-pollinated crops.
 - d) Genetically modified crops
92. Which of the following promotes variation in plants?
- a) Clonal selection
 - b) Mutation breeding
 - c) Pure line selection
 - d) Self-pollination
93. Hybridization involves.....
- a) Tissue culture
 - b) Crossing genetically different plants
 - c) Cloning of plant cells
 - d) Radiation treatment
94. Introduction and acclimatization refers to
- a) Climate resistance
 - b) Introduction of exotic species and adapting them
 - c) Genetic mutation
 - d) DNA analysis

95. BLAST is used to
- a) Test plant diseases
 - b) Identify plant fossils
 - c) Align and compare biological sequences
 - d) Measure soil pH
96. Bioinformatics includes all EXCEPT.....
- a) Data mining
 - b) Sequence alignment
 - c) Organic synthesis
 - d) Molecular phylogeny
97. Which branch of bioinformatics deals with evolutionary relationships?
- a) Biostatistics
 - b) Molecular phylogeny
 - c) Genomic modeling
 - d) Pharmacognosy
98. Which graphical presentation is best for frequency distribution?
- a) Pie chart
 - b) Table
 - c) Histogram
 - d) Line graph
99. Mean deviation is a measure of
- a) Central tendency
 - b) Dispersion
 - c) Accuracy
 - d) Reliability
100. Standard deviation measures
- a) Central value
 - b) Spread of data
 - c) Median
 - d) Graph width

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