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Test Registration No. _____



The Maharaja Sayajirao University of Baroda
Faculty of Science

M.Sc. ENTRANCE EXAMINATION

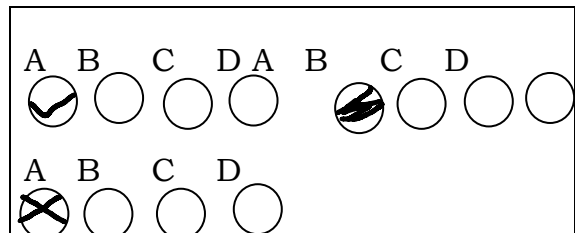
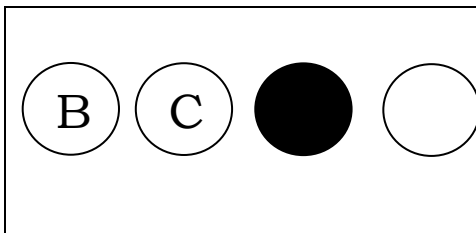
SUBJECT: Botany
DAY: Monday

TIME : 10.00-11.30 AM
DATE : 4th July 2022

Important Instructions:

1. This test booklet is to be opened only when instructed by the invigilators to do so.
2. This booklet carries 100 questions in 8 printed pages. All carry equal marks.
3. For every correct answer, candidate will earn 1 mark, for every wrong answer 25% mark will be deducted.
4. Test Registration Number must be entered correctly in the OMR answer sheet, as advised by the invigilators. The Question Booklet code (A/B/C/D) must also be marked on the OMR answer sheet (if not printed already) as instructed.
5. Answers must be marked in the OMR answer sheet using a black or dark blue ball point pen only. The circle should be filled in completely, leaving no gaps.
6. Gadgets (Mobile phones, pagers, ear phones, music players, calculators smart watches etc.) are strictly prohibited in the exam hall. If any candidate is found in possession of any of these at his/her exam seat, he/she is liable to be disqualified.
7. In case of tie in the marks the merit will be considered based on total marks in qualifying examination.

Correct way of marking answer: Incorrect way of marking answer:



Invigilator's Signature: _____

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

Department of Botany

M.Sc. ENTRANCE EXAMINATIONS 2022

Day: Monday

Date: 4th July 2022

Time: 10 am – 11.30 am

Marks: 100

Note: 1. Write your answers in the given OMR sheet.

2. There is negative marking in this examination. For each wrong answer 0.25 marks will be deducted.

1x100=100 Marks

- Viruses are essentially made up of _____.
a) Nucleic acids and Proteins b) Lipids and Proteins
c) Carbohydrates and Proteins d) Carbohydrates and Lipids
- Under dry conditions wall of Fern sporangia bursts at _____ to release spores
a) Jacket layer b) Annulus c) Srtomium d) Ostiole
- Mendel proposed which of the following term for hereditary units?
a) Factor b) Genome c) Genetic particle d) None of these
- What type of gametes will form by genotype RrYy
a) RY,Ry,rY,ry b) RY,Ry,ry,ry c) Ry,Ry,Yy,ry d) Rr,RR,Yy,YY
- Who is the father of Tissue culture?
a) Bonner b) Haberlandt c) Laibach d) Gautheret
- Cybrids are produced by _____.
a) Fusion of two different nuclei from two different sources
b) Fusion of two same nuclei from same species
c) Nucleus from one species but cytoplasm from both species
d) None of the above
- Which vector is mostly used for transgenic plant production ?
a) Plasmid b) cosmid c) Phasmid d) Agrobacterium
- Organogenesis is
a) Formation of callus tissue b) Formation of root and shoot on callus tissue
c) both (a) and (b) d) genesis of organ
- Opposite decussate phyllotaxy is found in _____.
a) Calotropis b) Mango c) Hibiscus d) Nerium
- Flowers are sessile in _____ inflorescence
a) Corymb b) Raceme c) Umbel d) Spike
- Unisexual flowers are found in family
a) Malvaceae b) Solanaceae c) Cucurbitaceae d) None of these
- Placentation in Cucurbitaceae is
a) Parietal b) Axile c) Basal d) Marginal
- RNA polymerase II is involved in the transcription of
a) t RNA genes b) r RNA genes c) all protein genes d) sn RNA genes
- One gene one enzyme hypothesis was proposed by
a) Lederberg b) Beadle and Tatum c) Garrod d) Francis crick

30. Endosperm culture is used to produce
 a) Diploid plants b) Endospermic plants c) Haploid plants d) Triploid plants
31. Dolipore septa is found in members of
 a). Zygomycetes b). Ascomycetes c). Basidiomycetes d). Oomycetes
32. Rust disease is caused by
 a). *Magnaporthe oryzae* b). *Puccinia graminis*
 c). *Phytophthora infestans* d). *Alternaria solani*
33. Which of the following shows heterocyst?
 a). *Nostoc* b). *Sargassum* c). *Ulothrix* d). *Oscillatoria*
34. Girdle shaped chloroplast is present in _____ .
 a). *Sargassum* b). *Ulothrix* c). *Nostoc* d). *Oscillatoria*
35. *Equisetum* belongs to _____ Division.
 a) Psilophyta b) Lycophyta
 c) Calamophyta d) Filicophyta
36. Formation of bulbils for vegetative reproduction is seen in _____ .
 a). *Cycas* b). *Equisetum*
 c). *Funaria* d). *Psilotum*
37. Archebacteria found in salt marshes are called _____
 a). Methanogens b). Thermoacidophile c). Halophiles d). None of the above
38. Which of the following division contain starch as reserve material?
 a). Cyanophyta b). Phaeophyta c). Rhodophyta d). Chlorophyta
39. Which tree gives out the latex to obtain natural rubber?
 a) *Eucalyptus volubilis* b) *Hevea brasiliensis*
 c) *Anogeissus latifolia* d) *Ficus racemosa*
40. The most suitable species for making bio-diesel is
 a) Pine b) Castor c) Mustard d) Jatropha
41. Bacterial cell wall is composed of _____
 a) Cellulose b) Chitin
 c) Mannose d) Peptidoglycan
42. What is known as sporophyte in *Riccia*?
 a) Capsule b) Foot and Capsule c) Foot, seta and capsule d) only foot
43. Which of the following member is heterosporous?
 a) *Riccia* b) *Nephrolepis* c) *Selaginella* d) *Psilotum*
44. Spore bearing organ of *Psilotum* is known as...
 a) Sori b) Synangium c) Cone d) Strobilus
45. CoVID-19 is which type of Virus?
 a) RNA b) DNA c) Both RNA & DNA d) None of the above
46. Shanon index is used to measure _____
 a) Evenness b) Richness c) Both a & b d) Interaction
47. The interaction which is observed between Epiphytes and host plant is _____
 a) Mutualism b) Ammensalism c) Commensalism d) parasitism
48. When a cell is placed in hypotonic solution, the cell become _____
 a) Plasmolysis b) plamolysed c) Flaccid d) Turgid

49. Who is father of Indian Taxonomy
 a) N. Wallich b) W. Roxburgh c) C. Linnaneus d) M.S Swaminathan
50. Which phase of photosynthesis does not require light?
 a) Photophosphorylation b) carbon assimilation
 c) Electron transport chain d) None of the above
51. In C4 plants, the cells which do not possess chlorophyll is known as _____
 a) Bundle sheath b) Mesophyll c) palisade d) Spongy
52. _____ belongs to dicot which has the largest leaf.
 a) *Cocoloba giantifolia* b) *Magnolia grandiflora*
 c) *Tectona grandis* d) *Pterygota alata*
53. is an endemic disease
 a) Citrus canker c) little leaf of brinjal
 b) TMV d) Wart disease of potato
54. The organism *Trichoderma* is used as
 a) Phosphate fertilizer c) Growth hormone
 b) Antagonist d) Edible fungus
55. In absence of specific host, if a pathogen starts growing on other alternative host for its survival, such pathogen is called as
 a) Facultative parasite b) Obligate parasite
 c) Pseudo-parasite d) Nonspecific parasite
56. Due to the presence of pathogen, when a cell fails to carry out its normal function and dies. Such state is said to be..
 a) Abnormal b) Symptomatic c) Asymptomatic d) Diseased
57. Haploid infect alternative host barberry
 a) Urediospore b) Aecidiospore c) Teleutospore d) basidiospores
58. The presence of a _____ type of pit is especially characteristics of most of Coniferales.
 a) Torus b) Simple pit c) Bordered pit d) Vestured pi
59. _____ is responsible for preventing the folding of the cellulose microfibrils in plant cell wall.
 a) Lipids b) Lignin c) Hemicelluloses d) protein
60. One of the main component of cell wall is cellulose ad the molecule of cellulose consist of long chain of _____ residues.
 a) Glucose b) lipids c) phospholipids d) polysaccharids
61. The protective layer developed during the secondary growth of the stem is called...
 a) Epidermis b) Periderm c) Rhizodermis d) Phellogen
62. The change from meristematic tissue to permanent tissue is called...
 a) Differentiation. b) Self-perpetuating
 c) Photosynthesis. d) Cell division
63. Phloem that is embedded within the secondary xylem is called _____ phloem.
 a) Internal b) Intraxylary c) Interxylary d) Medullary
64. Movement of water and minerals into the vascular column of a root is controlled by ...
 a) Stomata b) Spongy mesophyll cells c) Vascular cambium d) Endodermis

65. _____ among the following would be having the lowest intrinsic rate of growth 'r'.
 a) Large trees b) grasses c) bacteria d) unicellular algae
66. Which biome is characterized by low temperature and low precipitation?
 a) Savannah b) Subtropical desert c) Temperate grassland d) Tundra
67. The ocean currents move in a clockwise manner in the _____.
 a) Northern Hemisphere b) Southern Hemisphere c) Antarctic ocean d) Equator
68. Which plant hormone was also initially known as Dormin?
 a) Kinetin b) Dihydrozeatin c) ABA d) Zeatin
69. Which of the following enzyme is not involved in the C₃ cycle?
 a) RUBISCO b) Aldolase
 c) fructose 1,6, biphosphatase d) Amylase
70. Plants are multicellular eukaryotes with tissue systems made of various cell types that carry out specific functions. Plant tissues are mostly composed of cells which are ____ in response and perform a specific _____.
 a) similar and function b) dissimilar and function
 c) functional and similar d) Functional and dissimilar
71. What kind of bonds are always broken after an introduction of Endonucleases
 a) Covalent bond b) hydrogen bond c) both d) none
72. An organism which has mechanisms to protect themselves from their own restriction enzymes
 a) Plants b) Animals c) viruses d) Bacteria
73. A sequencing Method which requires DNA synthesis and termination of chain elongation
 a) Chemical b) physical c) enzymatic d) natural
74. ADNA must be transferred onto a support for further analysis
 a) Nitrocellulose paper b) Nylon paper
 c) Cloth d) plastic paper
75. Gene of known function and location in a genome is known as
 a) segment b) syndrome c) marker d) stretch
76. The scoring of bands are open for interpretation and results are not easily reproducible between laboratories
 a) AFLP b) RFLP c) SSR d) RAPD
77. Genetic information is stored in the of nucleotides in DNA.
 a) order b) chain c) beads d) knots
78. Name with no accompanying description is called as
 a) Tutonym c) *Nomen nudum*
 b) Homonym d) Later homonym
79. Tri-seriate perianth and multi-pistillate, apocarpus gynoecium is character of
 a) Rutaceae c) Sterculiaceae
 b) Myrtaceae d) Anonaceae
80. Family is characterized by leaf opposed inflorescence and terminal bud developing into tendrils
 a) Vitaceae c) Verbenaceae
 b) Mimosaceae d) None of the above

