

Test Registration No. _____

A



The Maharaja Sayajirao University of Baroda
Faculty of Science

M.Sc. ENTRANCE EXAMINATION

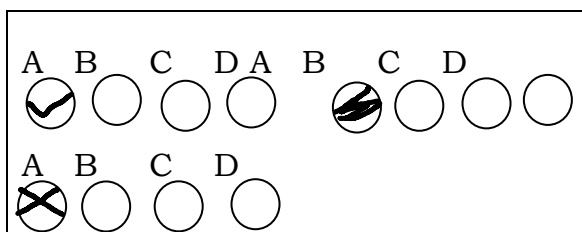
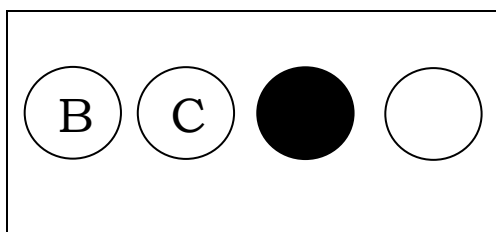
SUBJECT: Botany
DAY: Monday

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: _____

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

1. What kind of bonds are always broken after an introduction of Endonucleases ?
a) Covalent bond b) hydrogen bond c) both d) none
2. An organism which has mechanisms to protect themselves from their own restriction enzymes
a) Plants b) Animals c) Viruses d) Bacteria
3. A sequencing Method which requires DNA synthesis and termination of chain elongation
a) Chemical b) physical c) enzymatic d) natural
4. ADNA must be transferred onto a support for further analysis
a) Nitrocellulose paper b) Nylon paper
c) Cloth d) plastic paper
5. Gene of known function and location in a genome is known as
a) segment b) syndrome c) marker d) stretch
6. The scoring of bands are open for interpretation and results are not easily reproducible between laboratories
a) AFLP b) RFLP c) SSR d) RAPD
7. Genetic information is stored in the of nucleotides in DNA.
a) order b) chain c) beads d) knots
8. Name with no accompanying description is called as
a) Tutonym c) *Nomen nudum*
b) Homonym d) Later homonym
9. Tri-seriate perianth and multi-pistillate, apocarpus gynoecium is character of
a) Rutaceae c) Sterculiaceae
b) Myrtaceae d) Anonaceae
10. Family is characterized by leaf opposed inflorescence and terminal bud developing into tendril
a) Vitaceae c) Verbenaceae
b) Mimosaceae d) None of the above
11. Presence of gynophoric flower with 6 to many stamens is a character of
a) Sterculiaceae c) Cappariaceae
b) Mimosaceae d) Tiliaceae
12. Meliaceae is distinguished from related taxa by
a) Stamina tube c) discoid stigma
b) Lack of resin producing ducts d) All the above

41. Unisexual flowers are found in family
 a) Malvaceae b) Solanaceae c) Cucurbitaceae d) None of these
42. Placentation in Cucurbitaceae is
 a) Parietal b) Axile c) Basal d) Marginal
43. 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
44. One gene one enzyme hypothesis was proposed by
 a) Lederberg b) Beadle and Tatum c) Garrod d) Francis crick
45. When two or more fruits develop from a single flower they are called.....
 a) Composite fruits b) Aggregate fruits
 c) Edible fruits d) All the above
46. is defined as maximum displacement of wave from equilibrium, represented by crest and troughs of curvature produced.
 a) Amplitude b) Wave frequency
 c) Refractive index d) Refraction
47. The change of position involving inversion and twisting of xylem strands from exarch to endarch type is known as...
 a) Root-stem translocation b) Root-stem transformation
 c) Root-stem transition d) All the above
48. In *Cucurbita pepo* fruit shape is controlled by
 a) dominant genes b) recessive genes c) duplicate genes d) Epitasis
49. Beta vulgaris the food is stored in napiform root a underground structure then can you explain the position of preparation of food?.
 a) shoot b) leaves c) stem d) flower
50. In plants flower colour is due to the presence of anthocyanin but in *Batrachospermum* the red colour is due to
 a) chlorophyll a b) xanthophylls c) caoumarins d) phycoerythrin
51. In most simple and primitive type of embryo sac is noticed in Polygonum and developed from chalzal end falls under
 a) Bisporic eight nucleate b) Monosporic four nucleate
 c) Tetrasporic sixteen nucleate d) Monosporic eight nucleate.
52. How does centrifugation work?
 a) Through spinning
 b) By keeping small particles in the center and larger on the outside
 c) By keeping large particles in the center and smaller on the outside
 d) By separating particles into different tubes
53. Bixin a natural dye is recovered from _____.
 a) Flowers b) Seed c) Stem d) Bark
54. Components which have small value of K have affinity for
 a) mobile phase b) stationary phase c) no phase d) solution
55. Pencillin was first time identified by?
 a) Florey & Chain b) Alexander Flemings c) G. Brotzu d) Selman Wakasman
56. Wheat originated from _____ centre.
 a) Indian b) Mexico-Guatemala c) Mediterranean d) African

57. Arecanut in botanical term is _____
 a) Drupe b) nut c) pod d) berry
58. Pegion pea scientifically known as *Cicer* _____
 a) *vulgaris* b) *unguiculata* c) *arietinum* d) *culanaris*
59. _____ is a national tree of Thailand
 a) *Butea monosperma* b) *Cassia fistulosa*
 c) *Saraca indica* d) *Cassia renigera*
60. Endosperm culture is used to produce
 a) Diploid plants b) Endospermic plants c) Haploid plants d) Triploid plants
61. Dolipore septa is found in members of
 a). Zygomycetes b). Ascomycetes c). Basidiomycetes d). Oomycetes
62. Rust disease is caused by
 a). *Magnaportheoryzae* b). *Puccinia graminis*
 c). *Phytophthora infestans* d). *Alternaria solani*
63. Which of the following shows heterocyst?
 a). *Nostoc* b). *Sargassum* c). *Ulothrix* d). *Oscillatoria*
64. Girdle shaped chloroplast is present in _____ .
 a). *Sargassum* b). *Ulothrix* c). *Nostoc* d). *Oscillatoria*
65. *Equisetum* belongs to _____ Division.
 a). Psilophyta b). Lycopphyta
 c). Calamophyta d). Filicophyta
66. Formation of bulbils for vegetative reproduction is seen in _____ .
 a). *Cycas* b). *Equisetum*
 c). *Funaria* d). *Psilotum*
67. Archebacteria found in salt marshes are called _____
 a). Methanogens b). Thermoacidophile c). Halophiles d). None of the above
68. Which of the following division contain starch as reserve material?
 a). Cyanophyta b). Phaeophyta c). Rhodophyta d). Chlorophyta
69. Which tree gives out the latex to obtain natural rubber?
 a) *Eucalyptus volubilis* b) *Hevea brasiliensis*
 c) *Anogeissus latifolia* d) *Ficus racemosa*
70. The most suitable species for making bio-diesel is
 a) Pine b) Castor c) Mustard d) Jatropha
71. Bacterial cell wall is composed of _____
 a) Cellulose b) Chitin
 c) Mannose d) Peptidoglycan
72. What is known as sporophyte in *Riccia*?
 a) Capsule b) Foot and Capsule c) Foot, seta and capsule d) only foot
73. Which of the following member is heterosporous?
 a) *Riccia* b) *Nephrolepis* c) *Selaginella* d) *Psilotum*
74. Spore bearing organ of *Psilotum* is known as...
 a) Sori b) Synangium c) Cone d) Strobilus

75. CoVID-19 is which type of Virus?
 a) RNA b) DNA c) Both RNA & DNA d) None of the above
76. Shanon index is used to measure _____
 a) Evenness b) Richness c) Both a & b d) Interaction
77. The interaction which is observed between Epiphytes and host plant is _____
 a) Mutualism b) Ammensalism c) Commensalism d) parasitism
78. When a cell is placed in hypotonic solution, the cell become _____
 a) Plasmolysis b) plamolysed c) Flaccid d) Turgid
79. Who is father of Indian Taxonomy
 a) N. Wallich b) W. Roxburgh c) C. Linnaneus d) M.S Swaminathan
80. Which phase of photosynthesis does not require light?
 a) Photophosphorylation b) carbon assimilation
 c) Electron transport chain d) None of the above
81. In C4 plants, the cells which do not possess chlorophyll is known as _____
 a) Bundle sheath b) Mesophyll c) palisade d) Spongy
82. _____ belongs to dicot which has the largest leaf.
 a) *Cocoloba giantifolia* b) *Magnolia grandiflora*
 c) *Tectona grandis* d) *Pterygota alata*
83. is an endemic disease
 a) Citrus canker c) little leaf of brinjal
 b) TMV d) Wart disease of potato
84. The organism *Trichoderma* is used as
 a) Phosphate fertilizer c) Growth hormone
 b) Antagonist d) Edible fungus
85. 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
86. 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
87. Haploid infect alternative host barberry
 a) Urediospore b) Aecidiospore c) Teleutospore d) basidiospores
88. 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
89. _____ is responsible for preventing the folding of the cellulose microfibrils in plant cell wall.
 a) Lipids b) Lignin c) Hemicelluloses d) protein
90. One of the main component of cell wall is cellulose and the molecule of cellulose consist of long chain of _____ residues.
 a) Glucose b) lipids c) phospholipids d) polysaccharids
91. The protective layer developed during the secondary growth of the stem is called...
 a) Epidermis b) Periderm c) Rhizodermis d) Phellogen

