



The Maharaja Sayajirao University of Baroda Faculty of Science

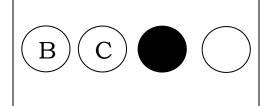
M.Sc. ENTRANCE EXAMINATION

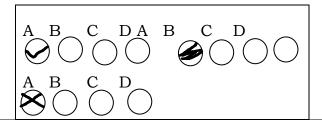
SUBJECT: Botany TIME: 10.00-11.30 AM DAY: Monday DATE: 4th July 2022

<u>Important Instructions:</u>

- 1. This test booklet is to be opened only when instructed by the invigilators to do so.
- 2. This booklet carries 100questions 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 mentioned 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

Time: 10 am - 11.30 am

Marks: 100

Date:4thJuly 2022

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

Day: Monday

2. There is negative marking in this examine be deducted.	nation. For each wrong answer 0.25 marks will		
	1x100=100 Marks		
1. What kind of bonds are always broken after an intr	oduction of Endonucleases ?		
a) Covalent bond b) hydrogen bond	c) both d) none		
2. An organism which has mechanisms to protect the	emselves from their own restriction enzymes		
	c) Viruses d)Bacteria		
3.A sequencing Method which requires DNA synthe	sis 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 pape	er		
5. Gene of known function and location in a genome	is known as		
a) segment b) syndrome	c)marker d) stretch		
6.The scoring ofbands are open for in	terpretation and results are not easily reproducible		
between laboratories			
a) AFLP b) RFLP	c) SSR d)RAPD		
7. Genetic information is stored in the o	f 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-pistilate, 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 st	amens is a character of		
a) Sterculiaceae	c) Capparidaceae		
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		

13. Family Sterculiaceae is distinguished by u	usually monoadelphous stamens that differ from Malvaceae
in being	
a) Monothecous stamens	b) Dithecous stamens
c) Petaloid stamens	d) None of the above
14. Some plants renowned for survival in har	rsh semi-desert and can grow in sand or even on rocks
a) Conifers	b) Ptreidosperms
c) Cycads	d) Ginkgoales
15 the 'plant of imm	nortality' by the ancient Egyptians, was used for its healing
properties since time immemorial.It is an ing	redient in many cosmetics because it heals moisturizes, and
softens skin. Simply cut one of the leaves to e	easily extract the soothing gel.
. a) Lawsonia inermis	b) Azadirachta indica
c) Aloe barbadensis	d) Artemisia scoparia
16. Early Life on the mother earth is always of	considered to be
•	b) Physical
, ,	d) Social
17. Sydney fox has described the evolution of	-
	b) physical
•	d) protenoids
18. Use and disuse theory can be explained by	·
a) Development of muscles	b) development of intelligence
c) Elongation of neck of Giraffe	d) chopping the tails of rats
19. With the help of the immunoassay studies	_
a) Evolution	b) Systematics
c) Species	d) Life
	te which works for the inventorization documentation and
conservation of the wildlife and natural resou	
a) Geer foundation	b) GUIDE
c) Forest department	d) Gujarat biodiversity Board
• • •	ne an entire ecosystem without which the ecosystem would
-	ogether as well as it has low functional redundancy?
a) cenospecies	b) keystone species
c) variety	d) neospecies
_	on of the Convention and any other legal instruments that
	omote the effective implementation of the Convention,
including institutional and administrative arra	6
,	c) COP d) MBB
	10kbp DNA duplex has the following numbers of base
	2600. The base composition of the whole double stranded
molecule will be	1) A 5(00 T) 5(00 C) 2 (00 C) 2 (00 C)
a) A-5200, T-5200, G-4800, C-4800	b) A-7600, T-7600, G-2400, C-2400
c) A-6400, T-3600, G-6400, C-3600	d) A-6400, T-6400, G-3600, C-3600

24. The structure of alfa-nelly and beta-snee	t were first elucidated by	
a) Linus Pauling b)G. N. Ramachandran		
b) C. V. Venktraman	d) Francis Crick	
25. Relationship between organisms of diffe	rent species in which one	organism is inhibited or destroyed
while the other organism remains unaffected	l is known as	<u></u>
a) Amensalism	b)Parasitism	
c) Commensalism	d) Mutualism	
26.Common target for antibiotics in bacteria	is?	
a) Microsome b)Mesosome	c) Ribosomes	d) Plasmid
27. Protein synthesis is carried out by	_	
a) Golgi body b) Smooth E R	c) Rough E R d)0	Chloroplast
28.Of the following parts of a cell listed bel	low, name the part that is	common to plant cell, animal cell
and a bacterial cell.		
a) chloroplast b) cell membra	ane c) cell wal	d) nucleus
29. Among the following the most variable st	tage of cell cycle is	
a). G1 b). S	c). G2	d). M
30. Which of these is a storage polysaccharid	les of animals?	
a). Starch b).Glycogen	c). Heparin d).	Hemicellulose
31. Viruses are essentially made up of	_	
	b) Lipids and Prot	teins
c) Carbohydrates and Proteins	d) Carboh	ydrates and Lipids
32.Under dry conditions wall of Fern sporan		-
a) Jacket layer b) Annulus	c) Srtomium	d) Ostiole
33. Mendel proposed which of the following	term for hereditary units	?
a) Factor b) Genome	c) Genetic particl	le d) None of these
34. What type of gametes will form by geno	type RrYy	
a) RY,Ry,rY,ry b) RY,Ry,ry,ry		d) Rr,RR,Yy,YY
35. Who is the father of Tissue culture?		•
a) Bonner b) Haberlandt	c)Laibach	d)Gautheret
36. Cybrids are produced by	,	,
a) Fusion of two different nuclei from	n two different sources	
b) Fusion of two same nuclei from sa	ame species	
c) Nucleus from one species but cyto	plasm from both species	
d) None of the above	-	
37. Which vector is mostly used for transger	nic plant production?	
a)Plasmid b)cosmid		Agrobacterium
38. Organogenesis is		
a) Formation of callus tissue	b) Formation of root and	shoot on callus tissue
c) both (a) and (b)	d) genesis oforgan	
39. Opposite decussate phyllotaxy is found i	, 0	
a) Calotropis b) Mango	c) Hibiscus	d) Nerium
40. Flowers are sessile in	inflorescence	
a) Corymb b)Raceme		d) Spike

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 transcrip	otion 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	l 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 displace	ment of wave from e	quilibrium, 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 an	nd twisting of xylem s	strands from exarch to endarch
type is known as		
a) Root-stem translocation	b) Root-stem transfe	ormation
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 re	oot a underground str	ucture 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 o	f anthocyanin but in <i>I</i>	Batrachospermum the red colour
is due to		
a) chlorophyll a b) xanthophylls c) ca		·
51. In most simple and primitive type of embry	o sac is noticed in P	olygonum and developed from
chalzal end falls under		
a) Bisporic eight nucleate	b) Monosporic four	
c) Tetrasporic sixteen nucleate	d)Monosporic eight	nucleate.
52. How does centrifugation work?		
a) Through spinning		
b) By keeping small particles in the center	•	
c) By keeping large particles in the center		tside
d) By separating particles into different tul		
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	<u> </u>	
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

5/.	Arecanut in botani	ical term is		
	a)Drupe	b) nut	c) pod	d) berry
58.	Pegion pea scien	tifically known as C	icer	
		b) unguiculata		d) culanaris
59.		is a national tre	ee of Thailand	
	a) Butea mono			
	c) Saraca indi	ca	d) Cassia renigera	
60.	Endosperm culture	e is used to produce		
	a) Diploid plan	nts b) Endosperr	nic plants c) Haploid plants	s d) Triploid plants
61.	Dolipore septa is f	ound in members of		
	a). Zygomycet	es b). Ascomy	vcetes c). Basidiomycetesd).	Oomycetes
62.	Rust disease is cau	ised by		
		•	b). Puccinia graminis	
	c). Phytophtho	ra infestans	d). Alternaria solani	
63.	Which of the follo	wing shows heterocy	rst?	
	,	, ,	m c).Ulothrix	· · · · · · · · · · · · · · · · · · ·
64.				
	a). Sargassum	b). <i>Ulothrix</i>	c). Nostoc	d). Oscillatoria
65.			Division.	
	a). Psilophyta		b). Lycophyta	
	c). Calamophy			
66.		ils for vegetative rep	roduction is seen in	•
	a).Cycas		b). Equisetum	
	c). Funaria		d). Psilotum	
67.			e called	
60			cidophile c). Halophiles	d). None of the above
68.			n starch as reserve material?	1) (1) 1 1
60			c). Rhodophyta	d). Chlorophyta
09.	_	out the latex to obtain		:
	a) Eucalyptusc) Anogeissus		b) Hevea brasilens d) Ficus racemosa	lS
70.7	_	species for making bi	<i>'</i>	
70.1				J) T-4 1
71	a) Pine	b) Castor	c) Mustard	d) Jatropha
/1.		l is composed of		
	a) Cellulose	b) Ch	ntin ptidoglycan	
72	c) Mannose			
12.	a) Capsule	sporophyte in <i>Riccia</i>	c) Foot, seta and capsule	d) only foot
73	, <u>*</u>	wing member is hete	•	d) only loot
13.	a) <i>Riccia</i>	b) <i>Nephrolep</i>	•	d) <i>Psilotum</i>
74	,	an of Psilotum is kno	, 0	a) i suoumi
, r.	a) Sori	b)Synangium		d) Strobilus
	-,	e, e, mangran	- 0, 00110	5, 200140

75. CoVID-19 is which type	of Virus?			
a) RNA	b) DNA	c) Both I	RNA & DNA	d) None of the above
76. Shanon index is used to r	neasure			
a) Eveness	b) Richness	c) Both a & b	d) Interaction
77. The interaction which is	observed between	een Epiphy	ytes and host plant is	
a) Mutualism	b) Ammensal	lism c) Commensalism	d) parasitism
78. When a cell is placed in l	nypotonic solu	tion,the cel	ll become	
a) Plasmolysis	b) plamolysed	d c) Flaccid	d) Turgid
79. Who is father of Indian 7	Гахопоту			
a) N. Wallich	b) W. Roxbu	ırgh c) C. Linnaneus	d) M.S Swaminathan
80. Which phase of photosyn	thesis does no	t require li	ght?	
a) Photophosphorylat	ion	b) carbon	n assimilation	
c) Electron transport	chain	d) None	of the above	
81. In C4 plants, the cells wh	nich do not pos	sess chlore	ophyll is known as	
a) Bundle sheath				d) Spongy
82 belongs to dicc	ot which has th	ne largest le	eaf.	
a) Cocoloba giantifol				
c) Tectona grandis	d) Pte	erygota ala	ıta	
83 is an endemic	disease			
a) Citrus canker		c) little leaf of brinjal	
b) TMV		d	l) Wart disease of pot	ato
84. The organism <i>Trichodern</i>	<i>ia</i> is used as		- 	•••
a) Phosphate fertiliz	er	c) Growth hormone	
b) Antagonist		d) Edible	e fungus	
85.In absence of specific hos	t, if a pathoger	n starts gro	wing on other alterna	ative host for its survival, such
pathogen is called as				
a) Facultative parasite	e	b) Obligate parasite	
c) Pseudo-parasite		b d	l) Nonspecific parasit	ie e
86.Due to the presence of p	athogen, when	a cell fai	ls to carry out its no	ormal function and dies. Such
state is said to be				
a) Abnormal	b)Symptomat	tic c) Asymptomatic	d)Diseased
87.Haploid infect	alternative hos	t barberry		
a) Urediospore				d) basidiospores
88. The presence of a	_ type of pit is	especially	characteristics of mo	ost of Coniferales.
	ple pit			d) Vestured pi
89is responsible for			-	ibrils in plant cell wall.
a) Lipids b) Lig				d) protein
				le of cellulose consist of long
chain of residues.				
a) Glucose	b)lipids	c) phosp	holipids d) poly	saccharids
91. The protective layer devel	=			
a) Epidermis	b) Periderm) Rhizodermis	d) Phellogen
• •	•			_

92. The change from meristematic tissue to permanent tissue is called		
a) Differentiation. b) Self-	-perpetuating	
c) Photosynthesis.	d) Cell division	
93.Phloem that is embedded within the secondary x	ylem is called phloem.	
a) Internal b) Intraxylary	c) Interxylary d)Medullary	
94. Movement of water and minerals into the vascula	ar column of a root is controlled by	
a) Stomata b) Spongy mesophyll cells	c) Vascular cambiumd)Endodermis	
95 among the following would be h	aving the lowest intrinsic rate of growth 'r'.	
a) Large trees b) grasses	c) bacteria d) unicellular alage	
96. Which biome is characterized by low temperature and low precipitation?		
a) Savannah b) Subtropical desert	c) Temperate grassland d) Tundra	
97. The ocean currents move in a clockwise manner in the		
a) Northern Hemisphere b) Southern Hemisphere c) Antarctic ocean d) Equator		
98. Which plant hormone was also initially known as Dormin?		
a) Kinetin b) Dihydrozea	tin c) ABA d) Zeatin	
99. Which of the following enzyme is not involved in the C 3 cycle?		
a) RUBISCO	b) Aldolase	
c) fructose 1,6, biphosphatase	d) Amylase	
100. 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	

XXXXXXXXXXXX ALL THE BEST