Seat	
No.	

Total No. of Pages: 12

M.Phil/Ph.D. Entrance Examination, September - 2019 BOTANY

Research Methodology (Paper - I)

			ednesday, 18 - 09 - 2019 to 06.00 p.m.	Total Marks: 100
Inst	ructio	<u>ns</u> : 1)	All questions are compulsory.	
		2)	Each question carries 2 marks	•
		3)	Answers should be marked darkening the appropriate opti	in the given OMR answer sheet by on.
		4)	Use black ball point pen only fo stray mark on the OMR Answ	or marking the circle. Do not make any ver sheet.
		5)	Follow the instructions given of	on OMR sheet.
		6)	Rough work shall be done on to paper.	he sheet provided at the end of question
		7)	Only non programmable calcu	lators are allowed.
1.	A) B) C) D)	reading observa counting	g	
2.	The	source o	f illumination for electron m	icroscope is
	A)	high spe	eed electrons	
	B)	light		
	C)	x-rays		
	D)	all the a	bove	

3.	A q	uestionnaire is a method of
	A)	data collection
	B)	tool
	C)	process
	D)	A & B
4.	ATO	CC stands forto obtain bacterial culture.
	A)	African Total Culture Collection
	B)	American Type Culture Collection
	C)	Asian Tomato Culture Collection
	D)	Asian Total Culture Collection
5.	The	main objective of medium preparation is to culture thein vitro.
	A)	cell
	B)	tissue
	C)	organ
	D)	all the above
6.		natic embryogenesis which occurs directly in absence of callus production alled as
	A)	indirect embryogenesis
	B)	direct embryogenesis
	C)	proliferation
	D)	embryogenic cells

7.	Foll kind	owing research includes surveys and ls.	nd fa	ct-finding enquiries of different
	A)	Analytical	B)	Descriptive
	C)	Applied	D)	Fundamental
8.	The	verbatim copying or reuse of one's	s owr	research is
	A)	self plagiarism		
	B)	plagiarism		
	C)	repetition		
	D)	none of the above		
9.		ious tests, such as chi square test		
	A)	data analysis	B)	hypothesis testing
	C)	data interpretation	D)	hypothesis building
10.	Scie	entific publication is a team effort o	f	
	A)	journal		
	B)	authors		
	C)	reviewer		
	D)	all the above		
11.	Whi	ich chemical is used for poisoning a	ınd pı	reservation of specimens?
	A)	Sodium chloride		
	B)	Calcium chloride		
	C)	Potassium chloride		
	D)	Mercuric chloride		

12.	Generalized conclusion on the basis of a sample is technically known as					
	A) statistical, inference of external validity of the research					
	B)	data analysis and interpretation				
	C)	parameter inference				
	D)	all the above				
13.	CM	I is related with				
	A)	Bryophyta	B)	Algae		
	C)	Pteridophyts	D)	Fungi		
14.	A researcher divides the population into PG graduation and 10+2 students using random digit table. He select some of the them from each. This is technically called					
	A)	stratified sampling	B)	stratified random sampling		
	C)	representative sampling	D)	none of the above		
15.		% of formalin is used for	prese	rvation of specimens.		
	A)	1%	B)	10%		
	C)	50%	D)	100%		
16.		is used as the prime ingredien	nt of g	gel in protein electrophoresis.		
	A)	SDS				
	B)	Polyacrylamide				
	C)	Bis				
	D)	Ammonium persulphate				
17.	Con	ventional columns used for HPLC	are g	enerally made up of		
	A)	Brass	B)	Platinum		
	C)	S.S.	D)	Glass		

18.	After inoculating the tissue on to the culture medium, cutures are incubated on culture rack at°C constant temperature.					
		25-28	B)	20-22		
	C)	30-35	D)	30-45		
19.		is used as solidify	ying agent in cultu	ıre medium.		
	A)	Agarose	B)	Agar-Agar		
	C)	Cellulose	D)	Sugar		
20.	For	sterilization of culture	media	is used.		
	A)	autoclave	B)	heating		
	C)	filtering	D)	UV-radiation		
21.	Met	alic instruments are dip	ped in	_ethanol during incineration.		
	A)	65%	B)	75%		
	C)	85%	D)	95%		
22.		is a basic mediu	ım for culturing b	acteria.		
	A)	Nutrient broth	B)	Potato Dextrose Agar		
	C)	Yeast Extract Medium	D)	Czapek-Dox Agar		
23.		cryopreservation plant	t meterial is ma	intained in liquid nitrogen at		
	A)	-79°C	B)	-80°C		
	C)	-150°C	D)	-196°C		
24.	Chi	square valuew	vith increase in the	e degree of freedom.		
	A)	decreases	B)	increases		
	C)	remain constant	D)	changes		

25.	Exp	erimental research is					
	A)	qualitative	B)	quantitative			
	C)	categorization	D)	analysis			
26.		owing stain is used for testing the ure	via	bility of cells from suspension			
	A)	Iodine					
	B)	Evans blue					
	C)	FDA					
	D)	B and C					
27.	 mol	addresses issues of the secules in the cell.	truc	ture and function of all small			
	A)	Genomics					
	B)	Proteomics					
	C)	Metabolomics					
	D)	Genetics					
28.	The	term 'Heterosis' was first used by					
	A)	Shull (1914)					
	B)	Hayman (1957)					
	C)	Allard (1960)					
	D)	Garner (1958)					
29.	The	principle constituent of Clove oil is	S				
	A)	Cinaceole					
	B)	Eugenol					
	C)	Borneol					
	,	Menthol					

30.		is obtained from latex of u	nripe	capsule.
	A)	Catechu	B)	Cocaine
	C)	Hemp	D)	Opium
31.	Whi	ich of the following is not used as a	petro	o crop?
	A)	Jatropa curcus	B)	Pongamia pinnata
	C)	Terminalia tomentosa	D)	Calatropis procera
32.	Oxa	lic acid helps to maintain the low pI	H of t	heby acting as buffers.
	A)	chloroplast		
	B)	nucleus		
	C)	vacuole		
	D)	mitochondrion		
22		:- 411 £4:		
33.		is the example of pectin.		
		Arabinan		
		Xylan		
	C)			
	D)	Arabinoxylan		
34.	Vita	min C isacid.		
	A)	oxalic		
	B)	malic		
	C)	ascorbic		
	D)	hydrochloric		

35.		theory is also called as polar oscillation theory or shifting of poles.
	A)	Continental Drift theory
	B)	Land-Bridge theory
	C)	Age and Area theory
	D)	Pendulum theory
36.	The	termmeans 'a particular taxon with very restricted distribution'.
	A)	endemic
	B)	low risk
	C)	threatened
	D)	critically endangered
37.	The	plant material preserved in liquid nitrogen intechnique.
	A)	ediacaran
	B)	skeletonizing
	C)	cryopreservation
	D)	biotechnology
38.	In M	Mass Spectrometry (MS), the molecules in a test sample are converted toions.
	A)	Liquid
	B)	Gaseous
	C)	Semisolid
	D)	None of the above

39. X-ray diffraction and NMR spectroscopy are used todimensional structures of cellular molecules.				
	A)	uni	B)	two
	C)	three	D)	multi
40.	SI u	nit of measuring concentration of s	olutio	on is
	A)	m^2	B)	m^3
	C)	kg m ⁻³	D)	mol m ⁻³
41.	The	pH electrode responds to		ion in solution.
	A)	PO^4	B)	H^+
	C)	Cl-	D)	Na ⁺
42.	inste	ead it is based on physical similar	•	•
	A)	Artificial classification	B)	Phentic classification
	C)	Phylogenetic classification	D)	Natural classification
43.	Whi	ch of the following is not the aim and	d/or c	bjectives of systematic
	A)	The development of phylogeny, the group of related species.	e evo	olutionary history of a species or
	B)	To prepare an inventory of the planentire world.	ınt ta	xa by means of the flora of the
	C)	To have a convenient method of ide	entifi	cation and communication
	D)	To provide a system of classification	on ba	sed on the artificial affinities

44.	Cal	vin cycle starts with the carboxylati	on of	·
	A)	Ribulose-1,5-biphosphate		
	B)	3-phosphoglycerate		
	C)	Glyceraldehyde-3 phosphate		
	D)	Dihydroxyacetone-3-phosphate		
45.	Whi	ich of the following is not the phase	of ta	xonomy?
	A)	Systematic Phase	B)	Pioneer Phase
	C)	Old Phase	D)	Biosystematic Phase
46.	Who	o gave the term Phylum?		
	A)	Cuvier	B)	Haeckel
	C)	Theophrastus	D)	Linnaeus
47.	RN	A processing is		
	A)	the same as transcription		
	B)	the rejection of old, worn-out RN	A	
	C)	an event that occurs after RNA is	transo	cribed
	D)	both B and C, but not A		
48.		ne sequence of bases in DNA is T A will be	AGC	, then the sequence of bases in
	A)	ATCG	B)	TACG
	C)	CGAT	D)	AUCG
49.	Mite	otic division of a cell is	pr	ocess.
	A)	continuous	B)	discontinuous
	C)	phase wise	D)	none of the above
50.	Sou	rce of metabolic energy is used in	the fo	orm of
	A)	GTP	B)	ADP
	C)	ATP	D)	AMP
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Rough Work

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