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### M.Phil./Ph.D. Entrance Examination, August - 2018 BOTANY

#### Research Methodology

Day and Date: Time: 4.00 p.n			: Wednesday, 08 - 08 - 2018 m. to 6.00 p.m.			То	Total Marks: 100
Instructions:		5) 6) 7)	All questions are compulsory. Each question carries 2 marks. Answers should be marked in the given OMR answer sheet by darkening the appropriate option. Use black ball point pen only for marking the circle. Do not make any stray mark on the OMR Answer Sheet. Follow the instructions given on OMR Sheet. Rough work shall be done on the sheet provided at the end of question paper. Only non programmable calculators are allowed.				
1)	<ul><li>A)</li><li>B)</li><li>C)</li></ul>	immediat		potential		·	
2)	A) ]	ied resear practical real life	rch is designe	]		problems. social all the above	
3)	<ul><li>A)</li><li>B)</li><li>C)</li></ul>	understar outline th do refere	to nding the prob ne problem nce work applications	_		esearch problem	

4)	Mean deviation can be computed from							
	A)	Arithmetic mean	B)	Mode				
	C)	Median	D)	All the above				
5)	Coefficient of variability is helpful in understanding							
	A)	relative variation	B)	mean variation				
	C)	most frequent occurrence	D)	mode and median				
6)	Coe	Coefficient of correlation						
	A) can take any value							
	B) is always more than +1							
	C)	C) is always less than -1						
	D)	can take any value between +1 and	-1					
7)	The value of probability may vary between							
	A)	0-1	B)	populations				
	C)	trials	D)	events				
8)	Electron microscopes use lenses to control the path of electrons.							
	A)	electromagnetic	B)	electrostatic				
	C)	glass	D)	A & B				
9)	British scientist first described fluorescence in 1852.							
	A)	Stokes	B)	Hertz				
	C)	Weichert	D)	Ruska				
10)	Compound light microscope was invented by							
ŕ	A)	Robert Hook	B)	Van Leeuwenhoek				
	C)	Zacharias Janseen	D)	Erust Abbe				
11)	The verbatim copying or reuse of one's own research is							
11)	A)	self plagiarism		plagiarism				
	,	repetition		none of the above				

12)	Electron microscope is useful to study							
	A)	3D view	B)	surface view				
	C)	ultra structure	D)	all the above				
13)	Examination of viruses and ultra features can be studied well by using microscope.							
	A)	phase contrast	B)	fluorescent 50				
	C)	bright field	D)	electron				
14)	Vali	Validity of research can be improved by						
	A)							
	B)	-						
	C)							
	D)	none of the above						
15)	Copying someone else's work is							
	A)	plagiarism	B)	cut paste				
	C)	repetition	D)	steal				
16)	Deviations from Beer and Lambert's law are observed when							
,	A) monochromatic light is not used for measurement							
	B) coloured substances in the sample dissociate, associate or form complexes							
	C)	C) sample has a very high concentration of solute						
	D) all the above							
17)	Presence of two is a differentiating feature of a fluorescence spectrophotometer.							
	A)	mirrors	B)	monochromators				
	C)	recorders	D)	lamps				
18)	Culture technique involves principle of conditions.							
	A)	normal	B)	special				
	C)	aseptic	D)	•				

19)	Sterilization of heat labile substance is made by						
	A)	autoclaving	B)	heating			
	C)	antibiotics	D)	ultra filters			
20)		ay diffraction and NMR spectrosco		ve been used to study			
	dim	ensional structures of cellular molec	cules.				
	A)	Uni	B)	Two			
	C)	Three	D)	Multi			
21)	SI u	nit of measuring concentration of s	soluti	on is			
	A)	$m^2$	B)	$m^3$			
	C)	kg m <sup>-3</sup>	D)	mol m <sup>-3</sup>			
22)	The	pH electrode responds to	ion	in solution.			
,		PO <sup>4</sup>		$H^+$			
		Cl-		Na <sup>+</sup>			
23)	In technique the plant material preserved in liquid nitrogen.						
	A)	Ediacaran	B)	Skeletonizing			
	C)	Cryopreservation	D)	Biotechnology			
24)	In mass spectrometry (MS) the molecules in a test sample are converted to ions.						
	A)	Liquid					
	B)	Gaseous					
	C)	Semisolid					
	D)	None of the above					
25)	Pho	sphorus is not a component of					
	A)	DNA	B)	RNA			
	C)	Lipid	D)	ATP			
26)	Whi	ich of the following is not the phase	e of T	axonomy.			
,	A)	Systematic phase	B)	Pioneer phase			
	C)	Old phase	D)	Biosystematic phase			
	$\mathbf{C}$	Old phase	D)	Biosystematic phase			

27)	Who gave the term Phylum?							
	A)	Cuvier	B)	Haeckel				
	C)	Theophrastus	D)	Linnaeus				
28)	RN	A processing is						
	A) the same as transcription							
	B) the rejection of old, worn-out RNA							
	C)	C) an event that occurs after RNA is transcribed						
	D)	D) both B and C, but not A						
29)	If the sequence of bases in DNA is TAGC, then the sequence of bases in RNA will be							
	A)	ATCG	B)	TACG				
	C)	CGAT	D)	AUCG				
30)	is used in the industrial production of citric acid.							
	A)	Candida sp.	B)	Aspergilus sp.				
	C)	Streptococcus sp.	D)	Acetobacter sp.				
31)	The endosperm is formed in gymnosperms.							
	A)	Before fertilization	B)	After fertilization				
	C)	During fertilization	D)	Along with embryo formation				
32)	Oxalic acid helps to maintain the low pH of the by acting as buffers							
	A)	chloroplast	B)	nucleus				
	C)	vacuole	D)	mitochondrion				
33)	is also called vitamin C.							
	A)	oxalic acid	B)	malic acid				
	C)	ascorbic acid	D)	hydrochloric acid				
34)		is having seventy steles.						
-		Medullosa heterostelica	B)	Medullosa stellata				
	$\mathbf{C}$	Medullosa endocentriaca	D)	Medullosa thompsoni				

35)	Lenticels are involved in							
	A)	Transpiration	B)	Gaseous exchange				
	C)	Food transport	D)	Photosynthesis				
36)	In _	In sporangiophores are pendulous in condition.						
	A)	Calamostachys	B)	Paleostachys				
	C)	Macrostachys	D)	Mazostachys				
37)	has proposed the centers and non-centers of the origin of agricultural							
	croj	ps.						
	A)	Vavilov	B)	Harlan				
	C)	Sir Otto Frankel	D)	Alphonse de Candolle				
38)	Green revolution in India was achieved with the help of international institute.							
	A)	IRRI, Philippines	B)	CIMMYT, Mexico				
	C)	ICARDA, Syria	D)	IPGRI, Italy				
39)	During protein synthesis an anticodon on t RNA pairs with							
	A)	mRNA nucleotide bases	B)	rRNA nucleotide bases				
	C)	DNA nucleotide bases	D)	other tRNA nucleotide bases				
40)	Asafoetida is the							
	A)	Damar resin	B)	Gum resin				
	C)	Oleoresin	D)	Hard resin				
41)	The term means 'a particular taxon has very restricted distribution'.							
	A)	Endemic	B)	Low risk				
	C)	Threatened	D)	Critically Endangered				
42)	Kre	bs cycle is also called as	•					
	A)	Citric acid cycle	B)	Calvin cycle				
	C)	Yang cycle	D)	C, cycle				

43)	Alc	ohol is a product of			
	A)	Aerobic respiration	B)	Photosynthesis	
	C)	Anaerobic respiration	D)	Light reaction	
44)	The	shikimic acid pathway converts car	rbohy	drate precursors to	
	A)	aliphatic amino acids	B)	aromatic amino acids	
	C)	vitamins	D)	proteins	
45)		is the precursor for conde	ensed	tannis.	
	A)	phenyl alanine	B)	tyrosine	
	C)	glycine	D)	methionine	
46)	Hor	seshoe shaped antheridiophore is o	bserv	ved in	
	A)	Plagiochasama	B)	Targionia	
	C)	Asterella	D)	Marchantia	
47)	Styl	ar canals are present in			
	A)	Hallow style	B)	Solid style	
	C)	both A & B	D)	None of the above	
48)	) During processing several unusual bases are produced on large scale i				
		mRNA			
	B)	rRNA			
	,				
	C)	tRNA			
	D)	all the above			
49)	The development of sporangium in <i>Pteris</i> is				
	A)	Leptosporangiate	B)	Eusporangiate	
	C)	Protoleptosporangiate	D)	All the above	
50)		aat as a matahalia ahannal t	o tron	ofor alugada takan from duarada	
50)	act as a metabolic channel to transfer glucose taken from sucrose to UDP-glucose.				
	A)	Sucrose synthase	B)	Fructose synthase	
	C)	Triose synthase	D)	Glucose synthase	

### Rough Work