

RGUCET 2022

MSc in Botany

1	Fate smiles _____ those who untiringly grapple with stark realities of life.					
	a) on	b) over	c) around	d) with	A	on
2	The idiom 'To cut the cackle' means _____.					
	a) To annoy someone	b) To act in a friendly way	c) To stop talking and start	d) To humiliate	C	To stop talking and start
3	'To read between the lines' means					
	a) To concentrate	b) To grasp the hidden meaning	c) To read carefully	d) To suspect	B	To grasp the hidden meaning
4	Which of the following words means 'Tending to move away from the central axis'?					
	a) Revolution	b) Centripetal	c) Centrifugal	d) Rotation	C	Centrifugal
5	Which of the following is correctly spelt?					
	a) Nafarious	b) Gigentic	c) Vocifarous	d) Miscellaneous	D	Miscellaneous
6	What type of sentence is – 'May you live long.'					
	a) Optative	b) Exclamatory	c) Declarative	d) Assertive	A	Optative
7	What does the phrase "abound in" mean					
	a) Scarcity	b) Running around	c) Plenty	d) Fruitful	C	Plenty
8	Which of the following words means a 'hurdle'?					
	a) Tip	b) Platform	c) Ladder	d) Obstacle	D	Obstacle
9	Which of the following words can be used to denote a group of trees?					
	a) Herd	b) Clump	c) Bouquet	d) Galaxy	B	Clump
10	Which is the correct option for filling up the sentence – Let bygones _____ bygones.					
	a) is	b) be	c) let	d) are	B	be
11	World's first GM-Rubber was planted in _____.					

	a) Assam	b) Arunachal Pradesh	c) Mizoram	d) Manipur	A	Assam
12	Which of the following is the first national park of India?					
	a) Corbett	b) Manas	c) Keoladeo	d) Bandipur	A	Corbett
13	Bt Cotton is genetically modified by the insertion of one or more genes from a _____.					
	a) yeast	b) fungus	c) virus	d) bacterium	D	bacterium
14	Biodiesel is produced from which plants?					
	a) <i>Arachis hypogea</i>	b) <i>Butea monosperma</i>	c) <i>Pterocarpus santalinus</i>	d) <i>Pongamia pinnata</i>	D	<i>Pongamia pinnata</i>
15	Artemisinin is an _____.					
	a) Antifungal drug	b) Anti-inflammatory drug	c) Antimalarial drug	d) Anticoagulant	C	Antimalarial drug
16	Danish Siddiqui, an Indian photojournalist, was killed while covering a clash between Afghan security forces and Taliban forces. He was then associated with which news agency?					
	a) Associated Press	b) Reuters	c) United Press International	d) Press Trust of India	b	Reuters
17	In August 2021, the Finance minister of India announced National Monetisation Pipeline to sell assets worth Rs. 6.00 lakh crores in next four years. As per the pipeline developed by the NITI Aayog, which one among the following sectors has least estimated pipeline value?					
	a) Indian Railways	b) National highways	c) Power generation and transmission	d) Stadiums	d	Stadiums
18	Which one of the following is not a member country of Quadrilateral Security Dialogue (colloquially the Quad) which is formed for a strategic security dialogue between member countries?					
	a) Australia	b) India	c) USA	d) China	d	China
19	The Nobel Prize in Physiology or Medicine 2021 was conferred jointly to David Julius and Ardem					

	Patapoutian for their discovery of _____.					
	a) receptors for temperature and touch	b) Hepatitis C virus	c) how cells sense and adapt to oxygen availability	d) mechanisms for autophagy	a	receptors for temperature and touch
20	Pandit Jasraj who passed away in 2020 was a _____.					
	a) Classical vocalist	b) Santoor player	c) Sitar player	d) Pakhawaj	a	Classical vocalist
21	$\sqrt{6} \times \sqrt{27}$ is equal to _____.					
	a) $9\sqrt{2}$	b) $3\sqrt{3}$	c) $2\sqrt{3}$	d) $9\sqrt{3}$	a	$9\sqrt{2}$
22	The cost of 5 apples and 12 bananas is Rs. 120 and the cost of 10 apples and 6 bananas is Rs. 150. Find the cost of an apple.					
	a) 12	b) 10	c) 5	d) 8	a	12
23	From stations A and B, two trains X and Y start moving towards each other at the same time at the speed of 120 km/hr and 100 km/hr respectively. When the two trains meet each other, train X has covered 40 km more than train Y. Find the distance between A and B?					
	a) 220 km	b) 300 km	c) 360 km	d) 440 km	d	440 km
24	$5^{2/3} \times 5^{1/5}$ is equal to _____.					
	a) $5^{2/15}$	b) $5^{13/15}$	c) $5^{3/8}$	d) $5^{2/8}$	b	$5^{13/15}$
25	If A and B together can complete a work in 8 days and B alone in 12 days, then in how many days A alone can complete the work?					
	a) 12 days	b) 16 days	c) 18 days	d) 24 days	d	24 days

26	Metaphyta and Metazoa include which group of organisms in five kingdom classification?					
	a) Viruses	b) Prokaryotes	c) Multicellular decomposers	d) Multicellular producers and consumers	d	Multicellular producers and consumers

27	Strike out from the following which is not a DNA virus.					
	a) Herpes virus	b) Covid-19 virus	c) Smallpox virus	d) Papilloma virus	b	Covid-19 virus
28	A small single stranded, circular RNAs that are infectious pathogen and have no protein coating is _____.					
	a) Viroid	b) Cosmid	c) Phage	d) Satellite virus	a	Viroid
29	Heterocyst is formed generally in heterocystous Blue Green Algae due to _____.					
	a) Nitrogen starvation	b) Oxygen starvation	c) Carbon dioxide starvation	d) Phosphorus starvation	a	Nitrogen starvation
30	In Cyanophyta, which of the genus produces exospores during asexual reproduction?					
	a) <i>Dermocarpa</i>	b) <i>Pleurocapsa</i>	c) <i>Chamaesiphon</i>	d) <i>Siphonema</i>	c	<i>Chamaesiphon</i>
31	In which genus of Chlorophyta, the antheridia are produced on special type of small or dwarf plants, known as Dwarf males or Nannandria?					
	a) <i>Chara</i>	b) <i>Oedogonium</i>	c) <i>Spirogyra</i>	d) <i>Ulothrix</i>	b	<i>Oedogonium</i>
32	Identify the algal division based on the following characters: devoid of flagella, presence of floridean starch and pit connection.					
	a) Chlorophyta	b) Phaeophyta	c) Bacillariophyta	d) Rhodophyta	d	Rhodophyta
33	Biphasic life cycle is commonly found in _____.					
	a) <i>Gelidium</i>	b) <i>Polysiphonia</i>	c) <i>Nemalion</i>	d) <i>Gigartina</i>	c	<i>Nemalion</i>
34	The main function of Hapteron is for _____.					
	a) Asexual reproduction	b) Attachment to the substratum	c) Plant adaptation	d) Sexual reproduction	b	Attachment to the substratum
35	Sterile conceptacles, which facilitate the uptake of nutrients from the seawater in Phaeophyceae are known as _____.					
	a) Paraphyses	b) Receptacles	c) Cryptoblasts	d) Phenumatocysts	c	Cryptoblasts

36	Fungi are very closer to which one the following groups?					
	a) Algae	b) Viruses	c) Plants	d) Animals	d	Animals
37	Identify the fungi that produce conidia? i) <i>Alternaria</i> ii) <i>Peziza</i> iii) <i>Penicillium</i> iv) <i>Mucor</i>					
	a) i and ii	b) i and iii	c) i and iv	d) iii and iv	b	<i>Alternaria and Penicillium</i>
38	Identify the obligate fungi from among the following: i) <i>Alternaria</i> ii) <i>Synchytrium</i> iii) <i>Albugo</i> iv) <i>Saprolegnia</i>					
	a) i and ii	b) i and iii	c) ii and iii	d) ii and iv	c	<i>Synchytrium and Albugo</i>
39	Which fungus is very well known for biological control of plant pathogens?					
	a) <i>Penicillium</i>	b) <i>Trichoderma</i>	c) <i>Fusarium</i>	d) <i>Aspergillus</i>	b	<i>Trichoderma</i>
40	Conidia act as male sex cells in _____.					
	a) <i>Agaricus</i>	b) <i>Neurospora</i>	c) <i>Peziza</i>	d) <i>Erysiphe</i>	b	<i>Neurospora</i>
41	Consider the following fungi and identify one correct pair of fungi producing septate mycelium and coloured conidia: i) <i>Aspergillus</i> ii) <i>Penicillium</i> iii) <i>Helmithosporium</i> iv) <i>Alternaria</i>					
	a) i and ii	b) ii and iii	c) i and iii	d) iii & iv	d	<i>Helmithosporium and Alternaria</i>

42	<i>Puccinia graminis tritici</i> produces following five types of spores. Identify the correct pair of spores that cannot infect wheat plants.					
	i) Uredospore					
	ii) Teliospore					
	iii) Basidiospore					
	iv) aeciospore					
	a) i and ii	b) ii and iii	c) ii and iv	d) iii and iv	b	Teliospore and Basidiospore
43	Metaphase destruction of which one of the following proteins is directed by Anaphase Promoting Complex to separate sister chromatids apart?					
	a) Cohesin	b) Separase	c) Securin	d) Cyclin	c	Securin
44	Microtubules have the following features except _____.					
	a) Polarity	b) Dynamic instability	c) Rod like structure	d) Flexibility	c	Rod like structure
45	Consider the following and answer whether meiosis occurs in:					
	i) Haploid cell					
	ii) Diploid cell					
	iii) Haploid organism					
	iv) Diploid organism					
	a) ii and iv only	b) iii and iv only	c) ii, iii and iv only	d) All these statements	c	ii, iii and iv only
46	Which of the following statement(s) is/are incorrect about meiosis?					
	i) It involves two sequential cycles of nuclear cell division but only one cycle of DNA replication.					
	ii) Maternal and paternal chromosomes segregate during Anaphase II.					
	iii) Cells in Prophase - II are haploid in nature.					
	iv) Homologous chromosome pairs at Metaphase-I are held together at Centromere.					
	a) i only	b) ii only	c) ii and iv	d) iii and iv	c	ii and iv

47	Identify the wrong statement(s). i) DNA synthesis is unidirectional in <i>E. coli</i> but bidirectional in yeast. ii) DNA synthesis of both leading and lagging strands occurs in 5' to 3' direction. iii) Primer is not required during mRNA synthesis. iv) DNA gyrase cuts both the strands of DNA to remove supercoiling.					
	a) i only	b) i and iii only	c) i, iii and iv	d) iii and iv only	a	i only
48	The basic difference between Prokaryotic and Eukaryotic cells is due to their nature of _____.					
	a) Cell size	b) Genetic material	c) Nucleus	d) Cytoplasm	c	Nucleus
49	The smallest known organisms are _____.					
	a) Mycoplasmas	b) Viruses	c) Viroids	d) Prions	a	Mycoplasmas
50	Bacterial cells react differently to Gram Stain due to their composition of _____.					
	a) Cell membrane	b) Peptidoglycan layer	c) Teichoic acid	d) Lipopolysaccharides	b	Peptidoglycan layer
51	A Genetic Code specifies a molecule of _____.					
	a) Nucleotide	b) Amino acid	c) mRNA	d) Protein	b	Amino acid
52	<i>Streptomyces griseus</i> well known for production of antibiotics belong to the group _____.					
	a) Bacteria	b) Actinomycetes	c) Fungi	d) Archaeobacteria	b	Actinomycetes
53	The commercial production of Blue Cheese is accomplished by using the microbe _____.					
	a) <i>Penicillium roqueforti</i>	b) <i>Penicillium dabaryanum</i>	c) <i>Penicillium notatum</i>	d) <i>Penicillium digitatum</i>	a	<i>Penicillium roqueforti</i>
54	The basic difference in the cell wall of Gram positive bacteria and Gram negative bacteria is in their composition of _____.					
	a) Peptidoglycan layer	b) Lipoprotein	c) Teichoic acids	d) Lipopolysaccharides	a	Peptidoglycan layer
55	In living cells, transport of substances from external medium to the cytoplasm and vice-versa occurs through _____.					
	a) Plasmodesmat	b) Membrane protein	c) Plasma membrane	d) Membrane lipid	c	Plasma membrane

56	During mitosis, the cell's genetic material is equally divided in which stage?					
	a) Metaphase	b) Anaphase	c) Telophase	d) Cytokinesis	b	Anaphase
57	Rusts and Smuts are pathogenic fungal organisms of the group _____.					
	a) Oomycetes	b) Ascomycetes	c) Basidiomycetes	d) Anamorphic fungi	c	Basidiomycetes
58	A series of morphologically observable characters that lead to the identification of a disease in plants are called _____.					
	a) Disease triangle	b) Disease symptom	c) Disease cycle	d) Infection	b	Disease symptom
59	White rust disease in crucifers is caused by _____.					
	a) <i>Pythium debaryanum</i>	b) <i>Peronospora parasitica</i>	c) <i>Erysiphe polygoni</i>	d) <i>Albugo candida</i>	d	<i>Albugo candida</i>

60	Stele of <i>Marsilea</i> rhizome is _____.					
	a) Amphiphloic solenostele	b) Ectophloic solenostele	c) Dictyostele	d) Endophloic solenostele	a	Amphiphloic solenostele
61	Which among the following are the features that suggest an affinity between <i>Psilotum</i> with early vascular plants?					
	i) dichotomous branching ii) Aerial stems arise from horizontal rhizomes iii) Presence of a simple vascular cylinder iv) Heterosporous and eusporangiate nature					
	a) (i) & (ii) only	b) (ii) & (iii) only	c) (i), (ii) & (iii) only	d) (i), (ii), (iii) & (iv)	c	(i), (ii) & (iii) only
62	Heterospory & Eusporangiate development of sporangia are the characters of _____.					
	a) <i>Psilotum</i>	b) <i>Lycopodium</i>	c) <i>Marsilea</i>	d) <i>Selaginella</i>	d	<i>Selaginella</i>
63	Which of the following characters is/are correct between <i>Lycopodium</i> and <i>Selaginella</i> ?					
	i) Both are monoecious & bisexual					

	ii) Both are dioecious & unisexual iii) Both are present Ligules on the adaxial sides of leaves iv) Gametophyte of Lycopodium are monoecious while and Selaginella are dioecious						
	a) (i) & (ii) only	b) (ii) & (iii) only	c) (i) & (iii) only	d) (iv) only	d	(iv) only	
64	Synangium which is considered as a fusion product of three sporangia is found in :						
	a) <i>Psilotum</i>	b) <i>Lycopodium</i>	c) <i>Marsilea</i>	d) <i>Selaginella</i>	a	<i>Psilotum</i>	

65	In T.S. of dicotyledonous stem what is the arrangement of vascular bundles?						
	a) radial	b) asymmetric	c) conjoint-collateral	d) open	C	conjoint-collateral	
66	Which cell layer is referred as epiblema?						
	a) pericycle	b) endodermis is stem	c) leaf epidermis	d) root epidermis	D	root epidermis	
67	Recognize the families in which flowers are trimerous. i. Annonaceae ii. Rubiaceae iii. Liliaceae iv. Fabaceae						
	a) i & ii	b) ii & iii	c) i & iii	d) ii & iv	c)	i & iii	
68	What type of tissue forms hypodermis in dicotyledonous stems?						
	a) parenchyma	b) collenchyma	c) sclerenchyma	d) sclereids	B	collenchyma	
69	Select two suitable characters of pneumatophores from the options provided below. i. antigeotropic ii. assimilatory iii. respiratory iv. floating						
	a) i & ii	b) ii & iii	c) i & iii	d) ii & iv	c)	i & iii	
70	Which plant part is modified into Cladode?						
	a) lamina	b) petiole	c) shoot	d) internode	D	internode	

71	A mature pollen grain represents which stage of life cycle?					
	a) gametophyte	b) sporophyte	c) male gamete	d) intermediate stage	A	gametophyte
72	What is the location of cambium in a conjoint collateral closed vascular bundle?					
	a) Bellow the xylem	b) Outside the phloem	c) In between two vascular strands	d) Cambium absent	D	Cambium absent
73	In plants, I-girder form of distribution of mechanical tissue helps in _____.					
	a) Distribution of stress	b) easy conduction of solutes	c) storing ergastric materials	d) assisting the phloem	A	Distribution of stress
74	What is the anatomical nature of jute fibre?					
	a) bast fibre from phloem	b) xylem fibre	c) sclerenchyma	d) Collenchyma	A	bast fibre from phloem
75	Which tissue of vascular plant produces wood?					
	a) phellogen	b) sclerenchyma	c) secondary xylem	d) primary xylem	C	secondary xylem
76	Gynophore is present in the flowers of which family?					
	a) Brassicaceae	b) Capparaceae	c) Caryophyllaceae	d) Fabaceae	C	Caryophyllaceae
77	From which morphological part of the plant, we extract oil in <i>Oryza sativa</i> ?					
	a) husk (lemma & palea)	b) fused fruit and seed wall	c) endosperm	d) leaf	B	fused fruit and seed wall

78	Zoosporic fungi have been placed under _____.					
	a) Myxomycotina	b) Mastigomycotina	c) Ascomycotina	d) Basidiomycotina	b	Mastigomycotina
79	Select the right answer. Vegetative reproduction in lichens takes place by _____.					
	i) Isidia ii) Soredia iii) Fragmentation					
	a) i & ii	b) ii & iii	c) i & iii	d) i, ii & iii	d	i, ii & iii

80	Fruiting bodies of slime mold are called _____.					
	a) Acervulus	b) Sori	c) Apothecium	d) Perithecium	b	Sori
81	The structure which contains the zygote nuclei in <i>Rhizopus stolonifera</i> is known as _____.					
	a) progametangia	b) zygospore	c) suspensor cell	d) coenozygote	d	Coenozygote
82	Imperfect fungi lack sexual reproduction. They possess a special process of genetic recombination called _____.					
	a) parasexuality	b) dissexuality	c) homosexuality	d) heterosexuality	a	Parasexuality
83	Which of the following statements about lichen is incorrect?					
	a) Lichens are indicators of pollution.	b) They grow rapidly about 2 cm every day.	c) Some species are eaten by reindeers.	d) They are symbiotic relationship between alga and fungus.	b	They grow rapidly about 2cm every day

84	Cell wall of archaebacteria comprises of _____.					
	a) Pseudo peptidoglycans	b) Peptidoglycans	c) Muramic acid	d) Keratin	A	Pseudo peptidoglycans
85	Individual archaebacterium is _____ in diameter					
	a) <0.1 μm	b) 0.1-15 μm	c) >15 μm	d) 0.1-15 mm	B	0.1-15 μm in diameter
86	<i>Mycoplasma</i> is a _____ that can infect different parts of your body.					
	a) bacteria	b) virus	c) fungi	d) prions	A	bacteria
87	Which of the following are found in extreme saline conditions?					

	a) Halophiles	b) Thermophiles	c) Xerophily	d) Psychrophiles	A	Halophiles
88	Which one of these is resistant to penicillin?					
	a) Cyanobacteria	b) Mycoplasma	c) Bdellovibrios	d) Archaeobacteria	B	Mycoplasma
89	An endospore is a _____, and structure produced by some bacteria.					
	a) non-dormant	b) soft	c) non-reproductive	d) reproductive	C	non-reproductive
90	Prions are _____.					
	a) infectious nucleic acid particles	b) infectious RNA particles	c) sub-bacterial particle	d) infectious protein particles	D	infectious protein particles
91	Which of the following microorganism is not used in biofertilizer?					
	a) Mycorrhiza	b) <i>Nostoc</i>	c) <i>Rhizobium</i>	d) <i>Agrobacterium</i>	D	<i>Agrobacterium</i>
92	The antibiotic Streptomycin is produced by _____.					
	a) <i>Streptomyces griseus</i>	b) <i>Streptomyces rimosus</i>	c) <i>Streptomyces orientalis</i>	d) <i>Streptomyces fradiae</i>	A	<i>Streptomyces griseus</i>

93	A _____ is a self-organized, endogenously ordered, spherical collection of lipids proposed as a precursor of prokaryotic cell.					
	a) Protobiont	b) Proteinoid	c) Protonema	d) Macrospheres	A	Protobiont
94	The diagrammatic representation of karyotype is called:					
	(a) Idiogram	(b) Dendrogram	c) Cladogram	d) Karyogram	A	Idiogram
95	Mature ovule of <i>Cycas</i> is _____.					
	a) Amphitropous	b) Anatropous	c) Orthotropous	d) Campylotropous	C	Orthotropous
96	_____ have the largest ovule and spermatozooids.					

	a) <i>Gnetum</i>	b) <i>Cycas</i>	c) <i>Pinus</i>	d) <i>Ephedra</i>	B	<i>Cycas</i>
97	Girdling of leaf traces is one of the characteristics of _____.					
	a) <i>Gnetum</i>	b) <i>Ginkgo</i>	c) <i>Cycas</i>	d) <i>Sequoia</i>	C	<i>Cycas</i>
98	Which part of the <i>Cycas</i> has Inverted omega-shaped vascular bundles?					
	a) Root	b) Ovules	c) Leaflet	d) Rachis	D	rahis
99	_____ produces seeds but lacks ovary.					
	a) Gymnosperms	b) Pteridophytes	c) Angiosperms	d) Bryophytes	A	Gymnosperms
100	Which of the following have mulberry-like female cones or inflorescences?					
	a) <i>Lyginopteris</i>	b) <i>Williamsonia</i> ,	c) <i>Pentoxylon</i>	d) <i>Rhynia</i>	C	<i>Pentoxylon</i>