SLR-MD-123 Ρ Set

Max. Marks: 70

14

	M 0 -	(0	4 -
No.			
Seat			

M.Sc. (Semester - I) (CBCS) Examination Oct/Nov-2017 **Botany BIOLOGY AND DIVERSITY OF FUNGI, BACTERIA, VIRUSES AND** LICHENS

Day & Date: Thursday, 16-11-2017 Time: 10.30 AM to 01.00 PM

Instructions: 1) Q.1 is compulsory.

2) Attempt any two questions from Q. 2, 3 and 4.

3) Attempt any two questions from Q. 5, 6 and 7.

- 4) Figures to the right indicate full marks.
- 5) Draw neat and labeled diagram wherever necessary.

Q.1 Rewrite the following sentence by choosing correct answer:-

- 1) The diseases which commonly occur widely but periodically are termed as
 - a) sporadic b) endemic c) epidemic d) both A & B.
- 2) The bacteria are _____ means them devoid of flagella or non-motile.
 - a) Atrichous b) Amphitrichous d) Non polar
- c) Polar
- Viruses are highly resistant to _____
 - b) Alcohol a) Acid c) X-ray d) All of the above
- 4) Bacteriophages are _____ parasites of bacteria. b) Bacterial
 - a) Viral
 - c) Fungal d) Both B& C
- 5) According to Berry's manual bacteria belongs to class b) Basidiomycetes
 - a) Actinomycetes
 - c) Deuteromycetes d) Schizomycetes
- 6) The TMV in crystalline state from the sap of infected tobacco plant was studied by _____.
 - a) Twort b) Stanley c) Hershey d) Herilly
- 7) In bacterial cells _____ is absent.
 - a) Hemicellulose b) Cellulose c) Protein d) Both a & b
- Aplanospores are also called as _____
 - a) Sporangiospores b) Oospores d) Chlamydospores
 - c) Zoospores
- 9) Lactobacillus bacteria are _____
 - a) Trichous c) both A & B

- b) Atrichous
- d) None of the above

	10) Mutualism of anda) fungi, bacteriac) fungi	algae forming lichen thallus. b) viruses d) bacteriophages	
	11) When cells form cubical masses of a) Sarcinac) Diplococcus	of cocci istype of bacteria. b) Staphylococcus d) Vibrio	
	12) Cell wall of bacteria composed of amino acids.	NAG, NAM and peptide chain of	
	a) 3-4 c) 5-6	b) 4-5 d) 5-12	
	 13) Usnea is lichen. a) crustose c) fruticose 	b) foliose d) both a& b	
	 14) Myxomycophyta are a) golden-brown algae c) slime molds 	 b) yellow-green algae d) diatoms	
Q.2	Write about: A) General characters of viruses and B) Fructification and spore forming st	its chemical nature. ructure in fungi.	14
Q.3	 A) Discuss biology and economic imp B) Give an account on Eubacteria wit 	bortance of lichens. h suitable example.	07 07
Q.4	Explain:A) Size of bacteria with special refereB) Importance of fungi in industry and	ence to bacilli and its types. I medicines.	14
Q.5	 A) Write short notes on: 1) Cytoplasm and its inclusion in I 2) Classification of plant viruses B) Elegella in pactoria with illustration 	pacteria.	10
Q.6	 A) Write short notes on: 1) Basidiomycotina 2) Types of lichens, based on mo 	rohological character.	10
	B) Write in short cylindrical symmetry	(Helical) viruses with example.	04
Q.7	 A) Write short notes on: 1) Nutrition in fungi and note on re 2) Replication and transmission in 	eproduction.	10
	B) Write in short on ultra structure ba	cteria.	04

Seat No.		Set F	כ
	M.Sc. (Semester - I) (CBC	S) Examination Oct/Nov-2017	
	BIOLOGY AND DIVERSITY (PTERIE	OF ALGAE, BRYOPHYTES AND DOPHYTES	
Day & Time: 1	Date: Saturday, 18-11-2017 0.30 AM to 01.00 PM	Max Marks: 7	'0
Instruc	 Attempt totally five question Question no.1 is compulsed Attempt any two questions Attempt any two questions Figures to the right indicated 	ns. ory s from question no.2 to 4 s from question no.5 to 7 te full marks.	
Q.1 (Choose the correct alternative and In flagellated algal cell, the flagelluated algal cell, the flagelluated algal cell, the flagelluated algal cell chloroplast Chloroplasts Chloroplast contains 	I rewrite the sentences: 1 um develops from . b) Mitochondria . d) None of these . s stigma which can also be called as	4
L	a) Eye spot c) Fibril	b) Lamellad) Both a and b	
3) have double layered u a) Chloroplast c) E R 	unit membrane. b) Mitochondria d) All the above	
4) Car and Whitton (1973) named a) L-I, L-II c) L-IV 	 layers from BGA cell walls. b) L-III d) All the above 	
5	 The cytoplasm of BGA is differential a) Ooplasm c) Centroplasm 	iated in to b) Both c and d d) Chromoplasm	
6	 are absent from the ce a) Mitochonrdia c) Plastids 	ells of class Cyanophyceae. b) Dictyozomes d) All the above	
7	 Bryophytes are divided into a) Four c) Eleven 	different classes by Smith (1955). b) Three d) Twelve	
8) Two layered wall of <i>Riccia</i> sporoplication a) Foot c) Spores 	hyte is called b) Seta and capsule d) Calyptra	
g) Cryptogamic plants include a) Algae c) Bryophytes 	 b) Fungi d) All the above	

S N

	 10) stele is regarded as the monopole a) Sipohono c) Atacto 	ost advance one b) Haplo d) Dictyo	
	 11) was the first to give a bryophytes. a) Schimper (1867) c) Braun (1864) 	separate rank as a division to the b) Smith (1955) d) Silver fern	
	 12) <i>Mesipteris</i> belongs to the class a) Pteropsida c) Psilopsida 	b) Lycopsida d) Sphenopsida	
	 13) Aga-Agar is obtained a) <i>Gracilaria</i> sp c) <i>Pterocladia</i> sp 	algae. b) <i>Gelidium</i> sp d) All the above	
	14) The major preservatives used for aa) Formalinc) Glutaraldehyde	lgal preservation are b) Lugol's solution d) All the above	
Q.2	a) Describe the aquatic habitats of algb) Describe the salient features of Rho	ae. odophyceae.	07 07
Q.3	a) Discuss the diversity in Sphenopsidb) Describe the multicellular forms of a	a and Pteropsida w.r. to Morphology. algae.	07 07
Q.4	a) Describe the salient features and plb) Explain the modern trend of classifi	nylogeny of polytrichales. cation in pteridophytes.	07 07
Q.5	 a) Describe the sexual reproduction in b) Describe the interrelationship between c) Describe the method of cultivation of 	algae. en Anthocerotales and Sphagnales. of algae.	05 05 04
Q.6	 a) Describe the modern trends of class b) Describe the salient features of Function c) Add a note on telome concept in pterm 	sification in bryophytes. ariales. eridophytes.	05 05 04
Q.7	Writes note on any three:a) Add a note on modern trends of clab) Give salient features of lycopsida.	ssification in algae.	14

c) Describe the current trends of research in pteridophytes.d) Describe the life cycle of bryophyte.

		M.Sc. (Semester - I) (CBCS) Ex Botany PLANT ECO	am / LO	ination Oct/Nov-2017 GY
Day & Time:	& Da : 10.	te: Tuesday, 21-11-2017 30 AM to 01.00 PM		Max. Marks: 70
Instru	uctio	 ons: 1) Attempt totally five questions. 2) Section-I is compulsory. 3) Attempt any two questions from Section - III. 4) Figures to the right indicate full m 	Sect	tion - II and any two questions from s.
		Section	- I	
Q.1	Re 1)	write the following sentences by choo Mangroves are growing in a) Riverine c) Scrub jungles	osin _ ec b) d)	g correct alternative: 14 osystem. Estuarine Grassland
	2)	a) Biological communityc) Plant community	ea _ b) d)	Animal community Forest community
	3)	The water found in wetlands can be a) Freshwater c) Saltwater	b) d)	Brackish All of these
	4)	Wetlands occur naturally on every conti a) Antarctica c) Asia	nen b) d)	t except Africa Australia
	5)	The gradual replacement of one type of as	plai	nt community by other is known
		a) Ecology c) Migration	b) d)	Succession Esesis
	6)	Environmental impact assessment start a) 1960 c) 1950	in tl b) d)	ne 1982 2002
	7)	are areas of terrestrial and co to reconcile the conservation of biodiver a) Wetland c) Sacred grooves	bast sity b) d)	al ecosystem promoting solutions with its sustainable use. Biosphere reserves Tropical forests
	8)	The scanning of the earth by satellite or information about it is known as a) Remote sensing c) Photography	hig b) d)	h-flying aircraft in order to obtain Remote scanning Weather forecast
	9)	The Indian government has established a) 15 c) 10	b) d)	biosphere Reserves in India. 16 18

Seat No.

SLR-MD-125

Set P

- c) 10

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	10) reduces the oxygen carryi	ng capacity of blood.	
	a) CO c) NH ₂	b) Co ₂ d) Mn	
	11) Green house effect is caused by		
	a) O ₂	b) CO ₂	
	c) CFC	d) N ₂	
	12) The term 'ecosystem' was coined by E	British ecologist	
	c) O. P. Odum	d) T. N. Soo	
	13) In ecosystem energy flow is		
	a) Scattered	b) Unidirectional	
		a) Invertea	
	a) Herbivores	b) Omnivores	
	c) Carnivores	d) Bacteria	
	Section	ı — II	
Q.2	a) Comments up on biotic component of ab) What is remote sensing? Enlist its applivation wild life management.	any ecosystem studied by you. lications in vegetation analysis and	07 07
Q.3	a) What is air pollution? Comment up its eb) Explain the process of plant succession	effect on vegetation. n.	07 07
Q.4	a) Explain in detail 'aquatic ecosystem'.b) Write an essay on 'environmental toxic	ology' studies by you.	07 07
	Section) - 111	
Q.5	a) What is climatic climax?		05
	 b) Explain carbon credit. c) Biotransformation of toxicants. 		05 04
Q.6	a) Explain in brief phytoremediation.		05
	b) IUCN.		05
	c) Ozone depletion.		04
Q.7	Writes note on any three		14
	b) Phytostabilization .		
	c) MAB.		
	a) renoblotics.		

Instru	ctio	 Attempt totally five questions. Question no.1 is compulsory (Seider 3) Attempt any two questions from 4) Attempt any two questions from 5) Figures to the right indicate full indicat	ectio que que nar	on-I) estion no.2 to 4(Section-II) estion no.5 to 7(Section-III) ks.	
Q.1	Re 1)	write the following sentences by choor Regression analysis, the variable that i a) Dependent variable c) Intervening variable	o si s be b) d)	ng correct alternative:- eing predicted is the Independent variable Is usually x.	14
	2)	Analysis of Variance (ANOVA) is a statdifferences between two or more.a) Meanc) Median	b) d)	cal method used to test Mode Standard Deviation	
	3)	To determine the height of a person wha) Correlation problemc) Regression problem	nen b) d)	his weight is given is Association problem Qualitative problem	
	4)	To study viruses microscop a) SEM c) Fluorescence	be is b) d)	s used. Inverted Binocular	
	5)	 Kind of electron microscope which is u is a) Scanning electron microscope b) Transmission electron microscope c) Light microscope d) Compound microscope 	sed	to study internal structure of cells	
	6)	Photograph which is taken from microsa) Macrographc) Micrograph	cop b) d)	e is known as Monograph Pictograph	
	7)	Molecular structure is determined by _ a) Atomic absorption c) ESR spectroscopy	b) d)	Flame spectrophotometry NMR	
	8)	have lowest shorter wavele a) X-rays c) γ-rays	engt b) d)	h. UV rays IR-rays	
	9)	The absorption maximum shift towards presence of auxochrome is called a) Bathochromic shift c) Hyperchromic shift	b) d)	her wavelengths due to the Hypsochromic shift Hypochromic shift	

M.Sc. (Semester - I) (CBCS) Examination Oct/Nov-2017 Botany TOOLS AND TECHNIQUES IN BOTANY

Day & Date: Thursday, 23-11-2017 Time: 10.30 AM to 01.00 PM

Seat No.

SLR-MD-126

Max Marks: 70

- 10) The largest herbarium of the world is located in _____
 - a) New York c) Geneva

- b) Kew d) Berlin

11) In herbarium technique the specimen preparation involves

- steps. a) Strapping
- c) Special handling

- b) Sewing
- d) All of these

12) Handling of incoming specimens in herbarium maintenance involves ____ steps.

a) Fumigation

c) Poisoning

- b) Heating
- d) All of these

_____ factors affecting electrophoretic mobility. 13) ____

- a) The sample
- c) The buffer

- b) Electric field d) All of these
- 14) _____ is used to measure the radioactivity.
 - a) SEM
 - c) Scintillation counter
- b) UV spectrophotometer
- d) NMR

SECTION - II

Q.2	a)	Explain the theory and application of probability.	07
	b)	Write in brief principle and application of transmission electron microscopes.	07
Q.3	a)	What is chromatography? Describe the working principle of HPLC.	07
	b)	Discuss the principle and application flame spectrophotometry.	07
Q.4	a)	Write the principles and applications of Immuno fluorescence microscopy.	07
	b)	Explain the effect of radiation on biological systems.	07
		SECTION - III	
Q.5	a)	Give account of acidic and basic buffers.	05
	b)	Write a note on herbarium maintenance.	05
	c)	Write a note on radioisotopes.	04
Q.6	a)	Applications of computer in life sciences.	05
	b)	Write a note on herbarium maintenance.	05
	c)	Uses of phase contrast microscope.	04
Q.7	Wı a)	ites note on any three: Principles isoelectric focusing.	14

- **b)** Correlation and regression.
- c) Radioactive decay.
- d) Significance of herbarium.

	b) c) d)	Correct name for a taxon Identification of a taxon Classification and identification for a	a taxo	on
)	Cu a) c)	rrent activity of botanical nomenclate ICBN ICNCP	ure g b) d)	overned by the ICNB BSI
)	Ac Alt a) c)	cording to Besseyan cactus order ernarifoliae. Lamiales Iridales	b) d)	is belongs to Ebenales Cactales
)	<i>Ma</i> a) c)	alus malus is an example of Later homonym Isonym	b) d)	 Tautonym Synonym
)	Bo a) c)	tanical nomenclature is independent Bacterial Zoological	t of b) d)	nomenclature. Algal Both a & b
)		situation leads to the re	ejectio	on of a name.
	a) c)	Nomina conservanda Tautonym	b) d)	Nomina rejicienda Synonyms
)	Pe a) c)	rianth is present in the Scrophulariaceae Tiliaceae	famil b) d)	y. Sapotaceae Araceae

M.Sc. (Semester - II) (New) (CBCS) Examination Oct/Nov-2017 Botany TAXONOMY OF ANGIOSPERMS

Day & Date: Monday, 20-11-2017 Time: 10.30 AM to 01.00 PM

Seat

No.

2) Write any one question from question 2, 3 and 4. 3) Write any two questions from question 5, 6 and 7. 4) Draw neat and labeled diagram wherever necessary. 5) Figures to the right indicate full marks. Q.1 Rewrite the following sentences by choosing correct answer: 1) Cronquist's system of classification is ______ system of classification. b) Natural a) Evolutionary c) Artificial d) Phylogenetic 2) The long form of BSI is ____ a) Botanical Survey in India b) Biological Survey of India c) Biodiversity Survey of India d) Botanical Society of Iran Nomenclature deals with the determination of ______ a) Classification of correct taxon 4) 5) 6) 7) 8) 9)

Instructions: 1) Question no 1 is compulsory.

SLR-MD-129

Max. Marks: 70

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14

Set

	10) Typology is one of the type ofa) Species concept	b) Typification	
	c) Chemotaxonomy	d) Alpha taxonomy	
	 11) A represents a group of cl a) Family c) Order 	osely related species. b) Genus d) Division	
	12) The population of different species oc species.	curs in different region means	
	a) Allopatric c) Both a & b	b) Sympatricd) None of them	
	13) Flowers in spadix or spike are the cha	racteristic feature of the family	
	a) Commelinanceae c) Tiliaceae	b) Papaveraceae d) Magnoliaceae	
	14) Exploratory and consolidation phases taxonomy.	of systematics are considered under	
	a) Omega c) Numerical	b) Alpha d) Cyto	
Q.2	Write about:-a) Classical species concept.b) Function of the Plant Taxonomy.		14
Q.3	Describe :-a) Principles of ICBN.b) What is endemism give an suitable example.	ample.	14
Q.4	Explain:-a) Principles of priority.b) What is mean by hotspot, comment on	hotspots in India.	14
Q.5	 A) Write short notes on :- 1) Alpha and omega taxonomy. 2) Typological species concept. 		10
	B) Note on rejection of names with their si	tuations.	04
Q.6	 A) Write short notes on:- 1) Aims and principles of Taxonomy. 2) What is magnitude and distribution. 		10
	B) Write in brief about 'floristic works in Ma	aharashtra'.	04
Q.7	 A) Write short notes on:- 1) Conservation strategies. 2) Typification and provide examples of 	of synonyms and homonyms.	10
	B) Give the distinguishing characters of Ti	liaceae with example (species).	04

Set

Seat	
No.	

M.Sc. (Semester - II) (New) (CBCS) Examination Oct/Nov-2017 Botany CELL AND MOLECULAR BIOLOGY OF PLANTS

Day & Date: Wednesday, 22-11-2017 Time: 10.30 AM to 01.00 PM

Instructions: 1) Attempt totally five questions.

- 2) Question no.1 is compulsory.
- 3) Attempt any two questions from question no.2 to 4
- 4) Attempt any two questions from question no.5 to 7
- 5) Figures to the right indicate full marks.

Q.1 Choose the correct answer from the given alternatives:-

- _____ proteins are responsible for transport of substances across 1) the membrane against the concentrating gradient.
 - a) Enzymes b) Structural
 - c) Carrier d) Storage
- 2) The lipids of the cell membrane contain _____ head and hydrophobic tails.
 - a) Hydrophilic
 - b) Hydrophobic
 - c) No
 - d) Both Hydrophobic and Hydrophilic

The unit membrane model was put forwarded by _____

a) Robertson (1953) c) Havery and Cole

- b) Mudd and Mudd (1931)
- d) Danielli Davson (1954)
- 4) In transport, molecules moves from regions of low concentration to regions of high concentration i.e. against the concentration gradient.
 - b) Diffusion
 - a) Passive d) Effusion
 - c) Active
- 5) Baker (1953) referred to the golgi apparatus as _____
 - b) Chloroplast a) Mitochondria
 - c) Lipochondria d) Camillo golgi
- 6) The endoplasmic reticulum is found in almost all animal and plant cells except _____.
 - a) Oocyte
 - c) Procytes

- b) Mature erythrocytes
- d) Meiocytes
- 7) Filaments and microtubules are found in all _____ cell.
 - a) Eukaryotic b) Prokaryotic
 - c) Bacterial d) Protozones
- 8) In the chromosome, DNA is looped around the histone beads to form _____.
 - a) Liposomes
 - c) Plastosomes

- b) Nucleosomes
- d) Histosomes

Max Marks: 70

Ρ

	9)	DN forr	IA replication is a _ med from the pare	process in w	/hic ve c	h each of the two double helices one old and one new strand.	
		a) c)	Non conservative Preservative		b) d)	Conservative Semi conservative	
	10) sev a)	DNA veral hundred time Satellite	consist of short ider s.	ntica b)	al genes repeated in tandem Palindromic	
	11	c)) Th a) c)	A form of he cells which are r G1 phase G0 phase	not dividing are likely	a) y to b) d)	be at G2 phase S phase	
	12) Cro a) c)	ossing over results Recombination of Segregations of a	in i linked alleles. illeles	b) d)	Dominance of alleles Linkage between genes	
	13) Ina of a) c)	activation of cancer. Tumor suppresso Growth factors	is one of the	e st b) d)	eps leading to the development Oncogenes Stems cells	
	14) Ch a) c)	romosome mappir GISH GISH and FISH	ng is done by using	b) d)	FISH None of these	
Q.2	a) b)	De: De:	scribe the short va scribe the characte	rious models of plaseristics and function	sma of v	a membrane. vacuoles.	07 07
Q.3	a) b)	De: Co	scribe the function mment upon the g	of plasma membra enome organization	ne. in	mitochondria.	07 07
Q.4	a) b)	De: Exp	scribe the role of p plain gene express	lasmodesmata in th ion and nucleochlor	ie n ropl	novement of molecules. astic interaction in chloroplast.	07 07
Q.5	Wi a) b) c)	rite Nu Pro En:	briefly on:- cleosomes ogrammed cell dea zymes in DNA repa	th air.			05 05 04
Q.6	De a) b) c)	FIS FIS Pro	ibes :- SH technique. operties of genetic clins.	code.			05 05 04
Q.7	Wi a) b) c)	rites Sat Re Wo	s notes on any thr tellite DNA rtinoblastoma obble hyphothesis	ee:			14

d) ELISA Technique

	Μ	.Sc. (Semester - III) (New) (CBC	CS) Examination Oct/Nov-20	17
		PLANT EMBRYOLOGY	AND PALYNOLOGY	
Day & Time	& Da : 02.	ite: Thursday, 16-11-2017 30 PM to 05.00 PM	Max M	/larks: 70
Instru	ucti	 Dns: 1) Question no.1 is compulsory. 2) Attempt any two questions from 3) Attempt any two questions from 4) All questions carry equal mark 	om question no.2 to 4 om question no.5 to 7 <s.< td=""><td></td></s.<>	
Q.1	Cł 1)	In angiosperms development of male known as a) Microsporogenesis c) Microgametogenesis	 write the sentences: gametophyte from microspore is b) Megasporogenesis d) Megagametogenesis 	14
	2)	a) Pollen grainc) Nucleus	yte starts from b) Megaspore d) Pollen sac	
	3)	Curious rounded bodies of lipid in the a) Ubisch bodies c) Protein bodies	e tapetum are known as b) Pro ubisch bodies d) Lignin bodies	
	4)	is also known as foot layer of a) Exine c) Nexine	f pollen wall. b) Perine d) Intine	
	5)	The phenomenon of pinching off take a) Vegetative nucleus c) Tapetum	es place in the b) Generative cell d) Endothecium	
	6)	Vegetative nucleus acts as the the pollen tube. a) Director c) Pusher	 for the male nuclei for their entry b) Supported d) None of the above 	in
	7)	The long form of FA present in the sy a) Filiform Apparatus c) Fast Agent	ynergid is b) Fallins Agent d) False Apparatus	
	8)	Central cell plays important role in the a) Endosperm c) Haustoria	e formation of b) Embryo d) Sperms	
	9)	The term Palynology has been coined a) Hyde and Williams c) G. Eradtman	d for the first time by b) P.K.K. Nair d) None of the above	
	10) The outer wall of the pollen is compo a) Lignin c) Sporopollenin 	b) Cutin d) Suberin	

Seat No.

Set Ρ

- 11) Pollen calendar is related to _____.
 - a) latropalynology
 - c) Agropalynology

- b) Mellitopalynology
- d) Paleopalynilogy
- 12) _____ is the study of fossil pollen and spores.
 - a) Palynitaxomy
 - c) Aeropalynology

- b) Palaeopalynology
- d) Agropalynology
- 13) In the treatment of hay fever, the result obtained by the subcutaneous injection of pollen extracts were first successfully reported by _____.
 - a) Wyman b) Freeman c) Noon
 - d) Blackley
- 14) The pollen bursting in vitro medium is successfully controlled by the addition of _____.

	a) Sugars c) Boron	b) Calcium d) Auxins	
Q.2	A) MicrosporogenesisB) Palynotaxonomy		07 07
Q.3	A) Abnormal male gametophytesB) Foraging behavior of bees		07 07
Q.4	A) Structure of StylesB) Principles of Aeropalynology		07 07
Q.5	 A) Another culture technique B) Microfossils C) Significance of Embryo culture 		05 05 04
Q.6	 A) Consequences of Apomixes B) Pollen germination C) Causes of Polyembryony 		05 05 04
Q.7	 Any three: a) Vegetative cell b) Synergids c) Bee colony 		14

d) Allergic properties of Pollen

	Μ.	Sc. (Semester - III) (New) (CBC	S)	Examination Oct/Nov-2017
С	YT	DGENETICS, PLANT BREEDIN	IIY GA	ND GENETIC ENGINEERING
Day & Time	& Da : 02.	te: Saturday, 18-11-2017 30 PM to 05.00 PM		Max. Marks: 70
Instr	uctio	ons: 1) Q.1 is compulsory.2) Attempt any two questions fro3) Attempt any two questions fro	m Q m Q	. 2, 3 and 4. . 5, 6 and 7.
Q.1	Ti (1)	ck mark the right answer of followir is/are the basis of variation in a) Mutation c) Both a & b	n g ol n org b) d)	bjective: 14 anisms. Recombination None of these
	2)	 Viroids have a) ss RNA not enclosed by protein c b) ss DNA enclosed by protein coat c) ds DNA enclosed by protein coat d) ds RNA not enclosed by protein c 	coat	
	3)	Trascriptionlly active chromatin tends a) Light stained c) Partially stained	s to b b) d)	be get Dark stained Non stained
	4)	In the lac operon system B-galactosi a) A gene c) Y gene	dase b) d)	is coded by X gene Z gene
	5)	Protoplasts can be isolated by a) Mechanical method c) Both a and b	b) d)	Enzymatic method None of these
	6)	Eukaryotic genome is larger in size a eukaryotic genome has a) Introns c) Satellite DNA	as co b) d)	mpared to prokaryotic genome as Transposons All of these
	7)	One of the following is not the transp a) SINES c) LTR	osor b) d)	LINES STR
	8)	The most commonly used molecular plant breeding is a) RFLP c) RAPD	mar b) d)	ket for agronomic (yield) traits in QTL AFLP
	9)	Pomato is an example of a) Cybrid c) Normal hybrid	b) d)	Somatic hybrid None of these

Seat

No.

SLR-MD-137

Set P

- 10) One of the following is not the unit of gene mapping
 - a) Map unit b) Centi Morgan
 - c) Crossing Over d) % recombination frequency
- 11) If bacterial genome and plasmid allowed to replicate in the same manner then
 - a) Bactericides genome replicates faster
 - b) Plasmid replicates faster
 - c) Both will take equal time for replication
 - d) None of these
- 12) Transposable genetic elements ware discovered by _____
 - a) McClintock b) Mendel
 - c) Meselson d) Morgan
- 13) Proteins that assist binding of RNA polymerase to the promoter region on DNA strand are called
 - a) Transcription factor b) SSB protein
 - c) Sigma Factor d) All of the above
- 14) Which of the following is true regarding linkage maps? They
 - a) Can be used to pinpoint the precise physical position of a gene on a chromosome
 - b) Are a genetic map based recombination frequencies
 - c) Require preparation of karyotypes.
 - Reflect the frequency of crossing over between X and Y chromosomes

Q.2 Give the comparative account of the genome in prokaryotes and eukaryotes14 with respect to structure, organization and packing.

Q.3 What is bioinformatics explain use of bioinformatics in major research area. **14**

Q.4 What is chromosome mapping? Explain deferent types with importance. **14**

Q.5	Describe in briefly.	14
	a) Gene families	
	b) Mobile genetic elements and their significance	
Q.6	Write on:	14

a) Site specific recombination

b) Somatic cell genetics

Q.7 Write short notes on any three of the following:a) Saccharomyces cerevisae genome

- b) Hybridoma technology
- D) Hybridonia lecrinologi
 a) Protoplast fusion
- c) Protoplast fusion
- d) IPR

ADVANCED PLANT PHYSIOL	iy DG	Y AND BIOCHE
& Date: Tuesday, 21-11-2017 : 02.30 PM to 05.00 PM		
 actions: 1) Attempt total five questions. 2) Attempt any two questions from 3) Attempt any two questions from 4) Figures to the right indicate ful 5) Question 1 is compulsory. 	n Q n Q ma	. 2, 3 and 4. . 5, 6 and 7. ırks.
 Choose correct alternatives: 1) During light reaction of photosynthesian a) Water molecule splits c) PGAL is synthesized 	s b) d)	CO_2 reacts with H O_2 is combined with
 2) is the structural component of a) Chloroplast c) Mitochondria 	Ph b) d)	otosynthesis. Golgi complex Lysosome
 3) Calvin cycle is a) Dependent on light c) Inhibited by light 	b) d)	Not dependent on None of these

Seat No.

M.Sc. (Semester - III) (New) (CBCS) Examination Oct/Nov-2017

MISTRY

Day 8 Time

Instru

Q.1

- ₂sb
- ith CO₂

light

d) Proline

- 4) In C4 plants _____ acts as CO₂ acceptor.
 - b) Malic acid a) PEPA c) OAA d) RUBP
- 5) The end product of sulphate metabolism is _____ b) Glutamic acid
 - a) Ammonia
 - c) Glutathione
- 6) PS-I is concerned with _____.
 - a) Ionization of water
 - b) Formation of only ATP
 - c) Production of assimilatory power
 - d) None of these

Reduction of oxygen which forms water occurs during _____.

- b) Respiration a) Photosynthesis d) None of these c) Photorespiration
- 8) Substrate for photorespiration is _____
 - b) Glycolic acid a) Serine c) Indole acetic acid d) Malic acid
- 9) Glycolysis occurs in _____. a) Cytosol b) Mitochondria
 - c) Chloroplast d) Peroxisomes

Ρ Set

Max. Marks: 70

	 10) is the site of repiration w a) Ribosomes c) Mitochondria 	ithin the cell. b) Golgi complex d) Nucleus	
	11) Phosphofructokinase enzyme convea) Glucose 6 phosphatec) Fructose 6 phosphate	erts fructose 6 phosphate into b) Fructose 1, 6 Biphosphate d) Glycine	
	12) The first stable compound of TCA cya) Oxaloacetic acidc) Citric acid	 vcle is b) Oxalosuccinic acid d) Cis-aconitic acid 	
	13) The only 5C compound produced dua) Citratec) Succinate	iring Krebs cycle is b) α - Ketoglutarate d) Oxalosuccinic acid	
	 14) Reaction centre in PS I is a) P₇₀₀ c) P₆₀₀ 	 b) P ₆₇₀ d) M ₂₀₀	
Q.2	a) Explain in brief light harvesting compb) Describe in detail TCA cycle.	lexes.	07 07
Q.3	a) Explain electron transport chain in Mb) Describe the role of phosphate in pla	itochondria. Int metabolism.	07 07
Q.4	 a) Give schematic representation of gluconeogenesis. b) Describe photorespiration and state its significance. 		
Q.5	a) Write an essay on glycolysis.b) What are the factors controlling phos	phorus uptake?	07 07
Q.6	 a) Give schematic representation of C₃ b) Give an account of Biosynthesis of si 	cycle. tarch.	07 07
Q.7	Explaina) VAM and their role in P nutrition.b) Secondary metabolites in Plants		07 07

b) Secondary metabolites in Plants

Seat No.				Set	Ρ		
	M.Sc. (Semester - IV) (New) (CBCS) Examination Oct/Nov-2017 Botany CROP PHYSIOLOGY						
Day & Time:	Da 02.	ate: Friday, 24-11-2017 .30 PM to 05.00 PM		Max. Mar	ks: 70		
Instru	cti	 ons: 1) Q.1 is compulsory. 2) Attempt any two questions fr 3) Attempt any two questions fr 4) Figures to the right indicate f 5) Attempt totally five questions 	rom Q. 2 rom Q. 5 full mark s.	2, 3 and 4. 5, 6 and 7. <s.< td=""><td></td></s.<>			
Q.1	Ch 1)	oose the correct answer from give The vernalization involves the forma a) Vernalin c) Auxin	en altern ition of a b) F d) C	natives: a floral hormone called Florigen Cytokinin	10		
:	2)	The true natural auxin of higher plana) Elongation of internodesc) Elongation of cells in shoot	nt is b) C d) N	Cell division None of the above			
:	3)	Leghaemoglobin is present in a) Leaf c) Fruit	b) S d) N	 Stem Nodule			
	4)	Which one of the following is potenta) I.A.A.c) TIBA	weedici b) 2 d) N	de? 2-4-D NPA			
:	5)	Chemical substance, when added to a) Antitranspirants c) Vernalin	plants, b) F d) N	retard transpiration Florigen None of the above.			
	6)	Phenomenon of photoperiodism wasa) Borthwick and Hendricksc) Garner and Atard	s first dis b) F d) N	scovered by Flint and McAlister None of these			
	7)	The CIMAP research institute is situate a) Jodhpur c) Pune	ated at _ b) B d) L	Bangalore Lucknow			
:	8)	 What is the full form of CAZRI? a) Central Agricultural Zone Resear b) Central Arid Zone Research Insti c) Central Arid Zone Research India d) None of the above. 	rch Instit itute a	tute			
	9)	Differential distribution of photo assist called as a) Separation of assimilates c) Assimilates partitioning	milates i b) S d) C	in different sinks of the plant is Storage of photo assimilates Consumption of photo assimilates	6		

	10) Substances used to increase the fera) Florigenc) Fertilizer	tility of soil are called as b) Anti transpirant d) All of the above.	
	11) Weedicide killsa) Weedc) Fungi	b) Bacteriad) None of these	
	12) Richest source of GA in higher planta) Rootc) Leaf	ts. b) Stem d) Immature seeds	
	13) Ratio of economic yield to the wholea) NARc) Both a and b	 biological yield is b) Harvest index d) None of these correct 	
	14) Which one of the following is used aa) Azollac) VAROJ	s a organic fertilizer? b) Rhizobia d) All of these	
Q.2	a) Give an account of organic farming ab) Describe the physiological basis of y	and its importance. ield in Jawar.	07 07
Q.3	a) What is sources and sink relationshipb) Explain the contribution of ICRISAT	o? Add note on factors affecting on it. and IARIT in physiology of crops.	07 07
Q.4	a) Define the term growth and give an ab) Physiology of N₂ fixation in chickpea	account of growth analysis.	07 07
Q.5	 a) Describe the mineral nutrition in groub) b) Give an account of Vernalization. c) Mention the contribution of BARC , Markov Mar	indnut. /lumbai in Plano Physiology?	05 05 04
Q.6	 a) Write in brief about physiological bas b) Describe Post-harvest technology of to market strategy from field to const 	is of yield in wheat. any plant studies by you with respect umer.	05 05
	c) Enlist common weeds and weedicide	es.	04
Q.7	Write notes on any three:- a) Harvest Index b) Antitranspirants		14

- b) Antitranspirantsc) Photoperiodismd) CAZRI, Jodhapur