## 2022

## BOTANY

(Honours)

Paper Code : IX - A & B (New Syllabus)

Time: Four Hours Full Marks: 80 Paper Code: IX - A (Marks: 16) Choose the correct answer. Each question carries 1 Mark. Which of the following method uses the principle of DNA-DNA hybridization — (A) GISH (B) ELISA phile hearth Hills (C) Northern blotting 8 Haplant plans can be abrained from ... (D) FRAP 2. Which of the following is used for the preparation of Synthetic seed? (A) (B) But culture (A) Sodium alginate (B) Sodium carbonate (C) Level culture (C) Calcium carbonate (D) Room culture term its(D) Potassium chloride to to agree years out authorable of lies algue a so-Most widely used basic tissue culture media is — (A) Unipotency (A) Nutrient Agar media (II) Plantgonency (B) Luria broth media (C) Multipotency (C) Morishige-Skoog media vaneroupper [13] (D) Yeast Extract Agar media 10. An example of Gram we bacilli is -4. The 'Pili' in bacteria is used for -(A) SHIP WELLS (A) Propagation May 21 (11) (B) Motility THE SECOND PROPERTY (C.7) (C) Conjugation (D) Afgrainment

(D) Translation

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5. Plant with nuclear genome from one parent another parent is a —	and chloroplast/mitochondria genome from
(A) Hybrid	
(B) Heterosis	
(C) Cybrid	
(D) All of the above	
6. What is Callus?	
(A) Tissues that grow to form an embryoid	
(B) An unorganized actively dividing the m	ass of cells maintained in a culture
(C) An insoluble carbohydrate	
(D) A tissue that grows from an embryo	
7. Which of the component serves as 'Mordan	t' in the Gram staining method —
(A) Iodine	
(B) Alcohol	14/4-1
(C) Safranin	7883 1 10
(D) Crystal violet	mantalit a ethnicit (2)
Haploid plants can be obtained from	9/08/10/
(A) Anther culture	C. White of the Salincing is treat for
(B) Bud culture	enongmenandros cov
(C) Leaf culture	IV Sodian culposite
(D) Root culture	173 Calcium carbonsus
<ol> <li>For a single cell to differentiate into every show —</li> </ol>	
(A) Unipotency	2. Years midely used basic closure cultury
5.27C - 60.0 (4.540) 0.70 (2.5 (2.5 (2.5 (2.5 (2.5 (2.5 (2.5 (2.5	(A) Numbers Agai media
(B) Pluripotency	officer should also I (8)
(C) Multipotency	(C) Marghing Sheng meter
(D) Totipotency	silven rage trained meN (4)
<ol><li>An example of Gram -ve bacilli is —</li></ol>	and because they are their to accord for
(A) Streptococcus	file Propagation
(B) E. coli	SANDAR STATE
(C) Staphylococcus	(ES) biordility
(D) Mycobacteria	mediapagas Or
(D) Mycobacicia	and advantages of the control of the

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11.	Cre	eutzfeldt-Jakob Disease (CJD)	Is caused by	-			
	(A)	Virion	District				
(B) Prion Parion 1887 The control of							
	(D)		Econopia A				
		me the unit of Replication -		ansaltin Leads Terren			
(0)(	(A)	Gene by a dilection and a child		transcal of distri-	Ladanast, iii		
	(B)	Operon	alger all firm	same the ferrences	est officed in		
	(C)	Replicon	zneing tens	bloory are mon-in-	nte noderie (b)		
	(D)	Chromosome	szmethows	chipped harpe	acontración De		
13.	Tol	pacco mosaic virus (TMV) l	s a — [1111 1114	igz I. Szolik i terepu	dina nd# b		
		single-stranded DNA virus		univolish out the			
Justiqued (B) double-stranded DNA virus cond-A regular sequentitib edit one tratto (ii)							
$q \lambda = 0$	(C)	single-stranded RNA virus	tind owners)	METER TO THE STILL	E. 1000/05/00/01/41		
edhoeid e-ê	Tales.	double-stranded RNA virus	r the uniestra sient agriculd	an in starifficacje Producer violes	the role of t		
14,	The	protein coat of viruses that	t enclose the	genetic material i	s called	1	
4-6	(A)	Virion	6	ve because theget	Gram-negath		
VIXT to (B)*Capsidan notherinagio formations add advosab integnila obtains a diff./  inoissantina stativ malq lo maintalaom add accusability.						(97)	
	(C)	Peplomers	Group - B				
51mE: 1		Capsomers		of the following			
15.	An	n example of 'fusogen' which is used in the protoplast fusion technique is -					
r	(A)	process of the so	Ultravare the	(11)			
		Agarose		qua bus algionis			
	(C)	Mannitol		noie on transver	The state of the s		
moltadara	(D)	Glucose o graph of the contract of the contrac					
		ermus aquaticus is the sour			entonucleose?		
10-2-20	(A)	Restriction endonuclease		the following:	to only you re	nest.	
role of	(B)	Primase enzyme // 0 1 1	function a	e the structure and h	Busicate the	1 (0)	
8-1-	(C)	Taq polymerase		in gene transfer.	grabacierum		
2+4+4 2+4+4		Ligase	neture and f	Describe the su	евие оргон. регол.	(ii) (ii)	

## Paper Code: IX - B was a man accommon 11

(Marks : 64)

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

## Group - A

				1-3-12
	1. Ar	iswer any three of the following:	posta apportar more attended	
	(i)	Describe briefly the lysogenic cycle of Lam	bda phage with a suitable diagra	m.
	(11)	Briefly describe the formation of the endos	pore.	
	(iii)	Write a short note on viroids and prions.	mollipett (9)	
	(iv)	Describe a typical bacterial growth curve.	nerrowell and a POL	
	(v)	What are biopesticides? Explain with examp	ples.(71) and about condit.	1+3
2	. An	swer any two of the following:	and South supplemental DNA vins	10×2=20
		What are the differences between Achaea a	and Eubacteria? Enumerate the erial cell walls.	4+0
	(ii)	Outline the steps involved in the industria	al production of Streptomycin.	Describe 5+5
	(iii)	Distinguish between bacterial flagella and p Gram-negative bacterial flagella.		
	(iv)	With a suitable diagram, describe the struct Illustrate the mechanism of plant virus tran	tural organization and chemistry issues on semission.	5+5
		Group - B	D) Capsonurs	)
3.	Ansv	wer any three of the following:		4×3=1Z
	(i) '	What is RNA splicing and mention its sign	ificance.	2+2=4
	(ii) ]	Illustrate the process of the somatic embry		ion.
3	(iii) 1	Mention the principle and steps of the PCI	R mechanism.	3)
		Write a short note on transversion and fra	Instrumeted U	2)
	(v) I	Define restriction endonuclease. What	Clurius .	restriction
1.	Answ	er any two of the following:	Resultation endountease	A) 10×2=20
æ)		llustrate the structure and function agrobacterium in gene transfer.	of T-DNA Write down to	4+6
(	120	Define operon. Describe the structure and peron.	요	nents of la

4.

- (iii) Describe the method of Protoplast culture in a plant tissue culture. What is the application of hybrid cell culture?
- (iv) What are the factors for DNA damage? Briefly describe the DNA damage repair mechanism.