c) parenchyma

Register		, i		
Number				

## Part III — BOTANY

				( New Sylla	abus J		•
	٠			(English Ve	ersion )	•	
Tim	ie All	lowed: 3 Hour	s]			[ Maximun	1 Marks : 150
			-	SECTION	- A		
	•	Note:	i)	Answer all quest	ions.		
		,	ii)	Choose and write	e the correct a	answer.	
			iii)	Each question ca	urries one mar	k.	$30 \times 1 = 30$
							•
1.	Sola	anaceae is place	d u	nder the order	·	•	
	a)	Malvales		<b>b</b> )	Polemoniales	<b>S</b>	
	c)	Unisexuales		d)	Ranales.		•
2.	An	example of clade	ode	is	•		
	a)	Phyllanthus er	nbli	ca		•	
	b)	Ricinus comm	unis	<i>.</i>		. «	
	c)	Jatropha curc	us				
	d)	Euphorbia tiru	ıcall	<b>i.</b>			
3.	The	simple tissue g	ene	rally present in all	organs of the	plant is	
	a)	xylem		b)	phloem		

d) collenchyma.

Turn over

4.	The	outermost layer of root is		•
	a)	endodermis	b)	rhizodermis
	<b>c</b> }	cortex	d)	pith.
5.	Pro	toxylem lacuna is present in the	vascı	ular bundles of
	a)	dicot root	b)	monocot root
	c)	dicot stem	d)	monocot stem.
6.	Mor	nosomy is represented by		
	a)	2n - 1	b)	2n - 2
	c)	2n + 1	<b>d</b> )	2n + 2.
7.	The	enzyme that is used to join two	DNA	fragments together is
	a)	Restriction enzyme		
	<b>b</b> )	DNA ligase	•	
	c)	DNA polymerase		
	d)	Deoxyribonuclease.		
8.	Мус	coproteins are present in large qu	antit	ies in
	a)	bacteria	b)	virus
	c)	yeast	d)	chlorella.
9.		iched vitamin tablets are production consumption?	ced fr	om which of the following organisms fo
	a)	Volvoriella	b)	Agaricus
	c)	Pseudomonas	d)	Spirulina.
10.	Whi	ich one of the following is a $C_3$ p	lant '	?
	a)	Maize	b)	Sugarcane
-	c)	Rice	d)	Amaranthus.
13				•

11.	The	chemical used in the held to era	adica	te weeds is
	a) ~	~ NAA	b)	ABA
	c)	2, 4 D	d)	PAA.
12.	Pho	toperiodic response in flowering	was	first observed in
	a)	Wheat	b)	Maryland Mammoth
	c)	Oats	d)	Chrysanthemum.
13.	The	pathogen which causes blast di	sease	e of rice is
	a)	Tungro virus	b)	Xanthomonas citrii
	c)	Pyricularia oryzae	d)	Cercospora.
14.	The	plant which has the trade name	'Had	ljor' ( bone joiner ) is
	a)	Kuppaimeni	b)	Vilvam
	c)	Thottal chinungi	d)	Pirandai.
15.	The	plant which yields lint fibre in the	he tex	ctile industry is
	a)	Cotton	b)	Teak
	c)	Groundnut	d)	Rice.
16.	The	botanist who introduced the bin	omia	l system is
	a)	Carolus Linnaeus		
	b)	Gaspard Bauhin		
	c)	Sir Joseph Dalton Hooker		
	d)	Adolf Engler.		
17.	Plan	ats having flowers with free petal	ls are	placed under
	a)	Monochlamydeae	b)	Monocotyledons
	c)	Polypetalae	d)	Gamopetalae.

[ Turn over

В

				4				
18.	Epic	calyx is seen in	eks (174) Lite		and y	egisting of the second	an tar	
	a)	Fabaceae		b)	Solana	ceae		át e <del>ndi</del> je ₹
	c)	Malvaceae		d)	Liliacea	ae.		
19.	The	type of aestivation	on seen in t	he coro	lla of Faba	aceae is	÷,	÷
	a)	valvate	•	ъ)	descen	dingly imbri	cate	./
	c)	twisted		<b>d</b> )	ascend	ingly imbric	ate.	. *
20.	A si	ngle seeded dry i	ndehiscent	fruit de	eveloping i	rom an infe	rior ovary	is c
	a)	cypsela	· · · · · · · · · · · · · · · · · · ·	<b>b</b> )	berry		ě.	
	c)	capsule		d)	drupe.			
21.	The	cell which is hel	pful for the	e mecha	anism of r	olling and u	nrolling o	of the
	leaf	according to the	weather ch	nange is	<u> </u>		in <b>a</b> ver et ge	
	a)	cambium						j.
	b)	sclerenchyma				•		
	c)	bulliform cells					(	1
	d)	meristematic ce					and the same	
22.		meristematic ce k cambium is a /	en en en gerek gen				e de la companya de l	
22.			an					•
<b>22</b> .	Corl	k cambium is a /	an in the second					•
<b>22</b> .	Corl	k cambium is a / apical meristem	an in the second					•
<b>22.</b>	Corl a) b)	k cambium is a / apical meristem intercalary meri	an stem					
	Cork a) b) c) d)	k cambium is a / apical meristem intercalary meri	an stem		•			
	Cork a) b) c) d)	apical meristem intercalary meripromeristem lateral meristem	an stem		by			
	Corle a) b) c) d) Poly	apical meristem intercalary meri- promeristem lateral meristem tene chromosom	an stem	served	by Balbiar	<b>u</b> i		

24.	Which is a physical and functional unit of heredity?					
	a)	Chromosome	b)	Mitochondria		
	c)	Gene	d)	Ribosome.		
25.	Hug	o de Vries first used the term 'm	utati	on' based on his observation on		
	a)	Sorghum				
	b)	Neurospora				
	<b>c</b> )	Oenothera lamarckiana				
	d)	Cicer gigas.				
26.	The	essential component for the form	natio	n of chlorophyll is		
	a)	Fe	<b>b</b> )	Mg		
	c)	Cl	d)	Mn.		
27.	The	gas evolved during photosynthe	sis is			
	a)	carbon dioxide	b)	nitrogen		
	<b>c</b> )	hydrogen	d)	oxygen.		
28.	The	primary pigment is				
	a)	chlorophyll a	<b>b)</b> -	chlorophyll b		
	c)	carotenoid	d)	xanthophyll.		
29.	Con	aplete oxidation of one molecule	of glu	icose yields		
	a)	35 ATP	b)	36 ATP		
,	c)	38 ATP	d)	40 ATP.		
30.	The	energy currency of the cell is				
	a)	ATP	b)	NADP		
	c)	FAM	d)	FAD.		

[ Turn over

B

## SECTION - B

Note: i) Answer any fifteen questions.

ti) Each question carries three marks.

 $15 \times 3 = 45$ 

- 31. Define tautonym. Give an example.
- 32. What is pulvinus? In which family is it present?
- 33. What is pyrethrum?
- 34. Write the systematic position of Liliaceae.
- 35. What are called passage cells?
- 36. What is a genetic map?
- 37. What is a lethal mutation? Give an example.
- 38. List out three differences between DNA and RNA.
- 39. Give the binomials of three dicot transgenic plants.
- 40. Mention three media of plant tissue culture.
- 41. Define isoenzyme.
- 42. Write the overall equation of photosynthesis.
- 43. What is chemosynthesis?
- 44. What is Glycolysis?
- 45. Define respiratory quotient.
- 46. What is Richmond-Lang effect?

- 47. Define bolting.
- 48. What is devernalization?
- 49. Bring out any three economic importances of rice.
- 50. What is humulin?

## SECTION - C

- Note: i) Answer any seven questions including Question No. 51 which is compulsory.
  - ii) Each question carries five marks.
  - iii) Draw diagrams wherever necessary.

 $7 \times 5 \approx 35$ 

- 51. Bring out the significance of herbarium.
- 52. Write the economic importance of Arecaceae.
- 53. Explain different types of meristems based on their positions.
- 54. Draw the transverse section of dicot root and label the parts.
- 55. Write a short note on annual rings.
- 56. Draw the structure of t RNA and label the parts.
- 57. Write any five significances of mutation.
- 58. Give an account of five most important events of recombinant DNA technology.
- 59. What are the outcomes of application of plant tissue culture?
- 60. Bring out the characteristics of enzymes.
- 61. Write a short note on insectivorous plant.
- 62. Bring out the economic importance of teak.

B

[ Turn over

## SECTION - D

- Note: i) Answer any four questions.
  - ii) Each question carries ten marks.
  - iii) Draw diagrams wherever necessary.  $4 \times 10 = 40$
- 63. Write the outline of Bentham and Hooker's classification of plants and explain.
- 64. Describe Ixora coccinea in botanical terms.
- 65. Describe the secondary growth in dicot stem.
- 66. Write an account on the structure of DNA.
- 67. What will be the role of Single Cell Protein (SCP) to safeguard against human protein deficiency for the future?
- 68. Draw Calvin cycle without explanation.
- 69. Write an account on photoperiodism and vernalization.
- 70. Explain the role of biofertilizers to improve the soil fertility.