

3045

Register		I	
Number			

Part III — BOTANY

(English Version)

Time Allowed: 3 Hours]

[Maximum Marks: 150

SECTION - A

Note: i) Answer all questions.

- ii) Choose and write the correct answer.
- iii) Each question carries one mark

 $30 \times 1 = 30$

- 1. Bio-diesel is extracted from
 - a) Phyllanthus emblica
- b) Jatropha curcas
- c) Ricinus communis
- d) Hevea brasiliensis.
- 2. The term 'bio-systematics' was coined by
 - a) Engler and Prandtl
- b) Camp and Gily
- c) Carolus Linnaeus
- d) Gaspard Bauhin.
- 3. Open vascular bundles are present in
 - a) dicot root

b) dicot stem

c) monocot root

- d) monocot stem.
- 4. Lateral roots originate from
 - a) Trichoplast

b) Endodermis

c) Hypodermis

d) Pericycle.

[Turn over

5.	The	secondary protective layer is				
	a)	Phellogen	b)	Periderm		
	c)	Phelloderm	d)	Rhizoderm.		
6.	The	stability of terminal part of the	chron	nosome is offered by		
	a)	satellite	b)	centromere		
	c)	histones	d)	telomere.		
7.	The	plant that produces bio-degrada	able p	plastic is		
	a)	Arabidopsis thaliana	b)	Beta vulgaris		
	c)	mouse eared cress	d)	Glycine max.		
8.	Which one of the following will carry the gene of interest into its new host?					
	a)	Vector DNA	b)	Source DNA		
	c)	Host DNA	d)	Hybrid DNA.		
9.	Which of the following products helps the cells to resist virus?					
	a)	Interferons	b)	Interleukin		
	c)	Insulin	d)	Renin.		
10.	The	term 'enzyme' was coined by		Open vess Tar L'endies are present		
	a)	Fischer	b)	Buchner		
•	c)	Koshland	d)	Kuhne.		
11.	Pho	tosynthetically more efficient pla	ant is			
	a)	rice	b)	wheat		
	c)	potato	d)	sugarcane.		

12.	Enzyme which consists of a protein and a non-protein components is called					
	a)	Apoenzyme	b)	Holoenzyme		
	c)	Coenzyme	d)	Isoenzyme.		
13.	Poly	ploidy can be induced by the us	se of			
	a)	Polyethylene glycol	b)	Lycine		
	c)	Cellulose	d)	Colchicine.		
14.	Blast disease of rice is caused by the fungi					
	a)	Pyricularia oryzae		CO		
	b)	Cercospora personata				
	c)	Tungro virus				
	d)	Xanthomonas citri.				
15.	The	plant which promotes urination	is	0		
	a)	Cissus quadrangularis				
	b)	Arachis hypogea				
	c)	Aegle marmelos				
	d)	Solanum nigrum				
16.	Trin	nerous flowers are seen in				
	a)	Dicot plants	b)	Monocot plants		
	c)	Pteridophytes	d)	Gymnosperms.		
17.	7. Monothecous anther lobes are found in the family					
	a)	Malvaceae	b)	Solanaceae		
	c)	Euphorbiaceae	d)	Asteraceae.		

18.	'Kal _]	pa Vriksha' refers to		material in the second second second
	a)	Borassus flabellifer	b)	Elaeis guinensis
	c)	Cocos nucifera	d)	Corypha umbraculifera.
19.	Qui	nine is obtained from		Code of Cooperation of the pro-
	a)	Cinchoma officinalis	b)	Morinda tinctoria
	c)	Adina cordifolia	d)	Mussanda frondosa.
20.	Hon	nogamous head inflorescence is	found	in
	a)	Echinops	b)	Launaea
	c)	Helianthus	d)	Tridax.
21. The chief water conducting element in Gnetum is				ietum is
			U)	English English Colombia
	a)	Sieve tubes	b)	Tracheids
	c)	Vessels	d)	Xylem parenchyma.
22.	Phlo	oem parenchyma is absent in		
	a)	Pteridophytes	b)	Gymnosperms
	c)	Dicots	d)	Monocots.
0.0	The	sonome of Arabidonais thalians	ı ic	
23.	The	genome of Arabidopsis thaliand	t IS	er i granden er er by i ku
	a)	5	b)	7 almsty to
	c)	12	d)	21.
24.	The	mutation reported in bacterioph	nage i	s - 3 and and a continue recon
	a)	substitution	b)	addition
	c)	inversion	d)	deletion.

20	. 1110	superconed part of DNA is rele	ased	by
	a)	Primase	b)	Helicase
	c)	DNA polymerase	d)	Topoisomerase.
26.	. Wh	ich of the following is a Saproph	yte ?	
	a)	Vanda	b)	Drosera
	c)	Viscum	d)	Monotropa.
27.	Wh	ich is called the powerhouse of t	he ce	11 ?
	a)	Mitochondria	b)	Chloroplast
	c)	Ribosome	d)	Nucleus.
28.	Whi	ich of the following is a common	respi	ratory substrate ?
	a)	Protein	b)	Lipids
	c)	Carbohydrate	d)	Vitamins.
29.	Oxio	dative phosphorylation occurs in		
	a)	Glycolysis		40. Mendan ang 20 ea Em tubinology
	b)	Cyclic photophosphorylation		
	c)	Non-cyclic photophosphorylation	n n	42. Why is A.S.P. described as energy
	d)	Electron transport chain.		
30.	The	respiratory quotient of malic acid	d is	44. Write any time significance of a
	a)	1	b)	1.33
	c)	0.36	d)	∞. Y notinalinges er gadW .04 .

SECTION - B

Note: i) Answer any fifteen questions.

ii) Each question carries three marks.

 $15 \times 3 = 45$

- 31. Write any three salient features of ICBN.
- 32. What is epicalyx? Give an example.
- 33. What is syngenesious stamen? Write an example.
- 34. What is Binomial nomenclature? Give an example
- 35. What is a dorsiventral leaf? Give example,
- 36. What are the significances of crossing over?
- 37. Define Genome.
- 38. What is transcription?
- 39. What is Bio-remediation?
- 40. Mention any three Bio-technology centres.
- 41. Write the differences between photorespiration and dark respiration.
- 42. Why is A.T.P. described as energy currency of the cell?
- 43. What is respiratory quotient?
- 44. Write any three significances of pentose phosphate pathway.
- 45. What is photolysis of water?
- 46. What is vernalization?

- 47. What are phytochromes?
- 48. What is Richmond-Lang effect?
- 49. What is heterosis?
- 50. What is humulin?

SECTION - C

- Note: i) Answer any seven questions including Question No. 54 which is compulsory.
 - ii) Each question carries five marks.
 - iii) Draw diagrams wherever necessary.

 $7 \times 5 = 35$

- 51. Bring out the significance of Herbarium.
- 52. Write about the economic importance of Malvaceae.
- 53. Write about Parenchymatous tissue.
- 54. Draw and label the parts of Dicot root.
- 55. Explain the different types of meristems based on their position.
- 56. Write the differences between DNA and RNA.
- 57. Draw and label the structure of chromosome.
- 58. Bring out the major events in the making of a hybrid DNA.
- 59. Give an account of single cell protein.
- 60. Write the characteristics of enzymes.
- 61. Explain test tube and funnel experiment.
- 62. What are the benefits of Bio-fertilizers?

SECTION - D

- Note: i) Answer any four questions.
 - ii) Each question carries ten marks.
 - iii) Draw diagrams wherever necessary.

 $4 \times 10 = 40$

- 63. Explain Bentham and Hooker's classification of plants.
- 64. Describe Clitorea ternatea in technical terms.
- 65. Write the anatomical differences between dicot stem and monocot stem.
- 66. Write an account on the structure of D.N.A.
- 67. What are the applications of plant tissue culture?
- 68. Explain Dark reaction of photosynthesis with flow-chart.
- 69. Write about the physiological effects of Auxins and Gibberellins.
- 70. Write the economic importances of rice and groundnut.