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Part III — BOTANY

(English Version)

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Tin	ne Al	lowed : 3 Hours]	·		[Maximum Marks : 150
			SEC	TION	- A
		Note: i)	Answer all	questi	ions.
		ii)	Choose and	l write	e the correct answer.
	•	ш)	Each quest	ion ca	arries one mark. $30 \times 1 = 30$
			ı		
1.	On	e of the sepals is bi	rightly colour	ed in	
	a)	Gardenia		b)	Ixora
	c)	Morinda		d)	Mussaenda.
2.	Sol	anaceae is placed u	ınder the ord	er	
•	a)	Malvales		b)	Polemoniales
	c)	Unisexuales		d)	Ranales.
3.	In t	the petiole of banan	a and canna	the s	tar like parenchyma cells are called
	a)	Stellate parenchy	ma	b)	Collenchyma
	c)	Aerenchyma		d)	Chlorenchyma.
4.	Poly	yarch condition is f	ound in		
	a)	monocot leaf		b)	dicot leaf
	c)	dicot stem		d)	monocot root.
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5.	Inne	ermost layer of the cortex is		
	a)	pericycle	b)	endodermis
	c)	rhizodermis	d)	epidermis.
6.	The	unit of genetic map is		
	a)	codon	b)	lux
	c)	micrometre	d)	Morgan.
7.	The	two protoplasts are fused with a	a fusc	ogen called
	a)	Polyethane glycol	b)	Polyethylene glycol
	c)	Sorbitol	ď)	Mannitol.
8.	The	technique employed to get rid of	f the 1	microbes in culture medium is called
	a)	Vernalization	b)	Hardening
	c)	Sterilization	d)	Inoculation.
9.	Rest	riction enzymes are synthesized	by	
	a)	bacteria only	b)	algae only
	c)	eukaryotic cells only	d)	virus only.
10.	The	term 'enzyme' was coined by		
	a)	Kuhne	b)	Fischer
	c)	Buchner	d)	Koshland.
11.	Complete oxidation of one molecule of glucose yields			cose yields
	a)	38 ATP	b)	36 ATP
	c)	35 ATP	d)	32 ATP.

12.	Dur	iring Calvin cycle the acceptor molecule of CO ₂ is				
	a)	PEP	b)	RUBP		
	c)	R5P	d)	PGA.		
13.	Van	aspati and soaps are prepared fi	rom			
	a)	bran wax	b)	bran oil		
	c)	sake	d)	humulin.		
14.	Tikk	ta disease of groundnut is cause	d by			
	a)	Pyricularia oryzae				
	b)	Cercospora personata				
	c }	Xanthomonas citrii				
	d)	Tungro virus.				
15.	The	e powder of the seeds used instead of coffee is				
	a)	Cola nitida	b)	Ilex paraguriensis		
	c)	Catharanthus roseus	d)	Pentadiplandra brazzeana.		
16.	The	term 'Biosystematics' was coined	d by			
	a)	Carolus Linnaeus				
	b)	Gaspard Bauhin	·			
	c)	Engler and Prantl				
	d)	Camp and Gily.				

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17.	Aes	chynomene aspera is a				
	a)	Xerophyte	b)	Mesophyte		
	c)	Hydrophyte	d)	Epiphyte.		
18.	Bine	omial of black gram is				
	a)	Vigna ungiculata	b)	Vigna mungo		
	c)	Cajanus cajan	d)	Lab-lab purpureus.		
19.	A si	ngle seeded dry indehiscent frui	t dev	eloping from inferior ovary is		
	a)	Cypsela	b)	Capsule		
	c)	Legume	d)	Drupe.		
2 0.	. Vernonia arborea is a					
	a)	herb	b)	shrub		
	c)	tree	d)	twiner.		
21.	. Passage cells are found in the endodermis of					
	a)	Dicot root	b)	Dicot stem		
	c)	Monocot stem	d)	Dicot leaf.		
22.	2. The lens-shaped openings in the cork tissue is					
	a)	Phellem	b)	Lenticels		
	c)	Phellogen	d)	Stomata.		
23.	The	term 'chromosome' was first in	trodu	ced by		
	a)	Flemming	b)	Balbiani		
•	c)	Bridges	d)	Waldeyer.		
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24.	Reco	ombination of chromosomes	takes	place in this stage of prophase I of	
	Meiosis.				
	a)	Leptotene	b)	Zygotene	
	c)	Pachytene	d)	Diakinesis.	
25 .	Bioc	hemical mutation is reported in	1		
	a)	Sorghum	b)	Cicer	
	c)	Neurospora	d)	Drosophila.	
26.	The	protein component of the Holo	enzym	e is	
	a)	coenzyme	b)	apoenzyme	
	c)	peptide enzyme	d)	lipid enzyme.	
27.	. The essential component for the formation of chlorophyll is				
	a)	Mg	b)	Mn	
	c)	Fe	d)	Cl.	
28.	An e	example for insectivorus plant	is		
	a)	Viscum	b)	Monotropa	
	c)	Vanda	d)	Drosera.	
29.	2. The first stable product formed in C 3 cycle is				
	a)	Oxaloacetic acid	b)	Aspartic acid	
	.c)	Phosphoglyceric acid	d)	Malic acid.	
30.). Glucose is phosphorylated to glucose-6-phosphate by the enzyme				
	a)	aldolase	b)	kinase	
	c)	mutase	d)	hexokinase.	
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SECTION - B

Note: i) Answer any fifteen questions.

ii) Each question carries three marks.

 $15\times3=45$

- 31. Define tautonym. Give example.
- 32. Write the binomials of three fibre plants of Malvaceae.
- 33. Define Herbarium.
- 34. Write the floral formula of male and female flowers of Cocos nucifera.
- 35'. What is rhizodermis?
- 36. What is Polytene chromosome?
- 37. What is genetic code?
- 38. What is crossing over?
- 39. What is the importance of Escherichia coli in biotechnology?
- 40. Why is SCP not popular for human consumption?
- 41. Define energy of activation.
- 42. What is photolysis of water?
- 43. Define chemosynthesis.
- 44. Write the overall reaction of Glycolysis.
- 45. What is oxidative phosphorylation?
- 46. What is respiratory quotient?
- 47. What are Phytohormones?

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- 48. What is Richmond Lang effect?
- 49. What is humulin?
- 50. Write three economic importances of groundnut.

SECTION - C

- Note: i) Answer any seven questions.
 - ii) Answer to Question No. **54** is compulsory and this question should not be left as option.
 - iii) Each question carries five marks.
 - iv) Draw diagrams wherever necessary.

 $7 \times 5 = 35$

- 51. Describe the male flower and female flower of Ricinus communis.
- 52. Write the economic importance of Rubiaceae.
- 53. Write a note on Xylem vessel.
- 54. Draw the T. S. of Helianthus leaf and label the parts.
- 55. Write the functions of the epidermal tissue system,
- 56. Describe the structure of chromosome.
- 57. Draw the structure of t-RNA and label the parts.
- 58. What is the role of Agrobacterium for gene transfer in plants?
- 59. Name the five genetically engineered products. Mention their functions.
- 60. Write about the physiological effects of Ethylene.
- 61. Describe Ganong's respiroscope experiment.
- 62. Add a note on Plant Introduction.

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SECTION - D

Answer any four questions.

Note: i)

Each question carries ten marks. ii) $4 \times 10 = 40$ iii) Draw diagrams wherever necessary. 63. Describe Bentham and Hooker's classification with outline flow-chart. 64. Describe Hibiscus rosasinensis in technical terms. Describe the vascular bundle of Monocot stem. 5 65. a) 5 b) Write a note on Annual rings. 66. Write an essay on Polyploidy. Add a note on its significance. 67. What are the basic techniques of plant tissue culture? 68. Describe cyclic and non-cyclic photophosphorylation. 69. Draw Krebs cycle without explanation. 70. Write a note on Biopiracy.