Register			
Number			

Part III — BIOLOGY

(English Version)

Time Allowed: 3 Hours] [Maximum Marks: 150

N. B.: Candidates should answer **Part** - **I** (Botany) & **Part** - **II** (Zoology) in separate answer-books.

PART - I (BOTANY)

(Marks: 75)

SECTION - A

Note: i) Answer all the questions.

ii) Choose and write the correct answer.

iii) Each question carries one mark.

 $14 \times 1 = 14$

- 1. Transgenic dicotyledonous plant is
 - a) Beta vulgaris

b) Asparagus

c) Oryza sativa

- d) Zea mays.
- 2. A typical chloroplast has
 - a) 40 to 60 grana

b) 30 to 40 grana

c) 10 to 20 grana

- d) 50 to 70 grana.
- 3. Bakanae disease in paddy is caused by
 - a) Abscisic acid

- b) Phenyl acetic acid
- c) Naphthalene acetic acid
- d) Gibberellic acid.

[Turn over

	4.	Exa	ample for C ₄ plant is				
	-	a)	wheat	b)	potato		
	:	c)	amaranthus	d)	rice.		
	5.	In (Carolus Linnaeus system of class	ificat	ion the number of classes is		
	•	a)	34	b)	24		
		c)	14	d)	10.		
	6.	Bin	omial system was introduced by				
		a)	Carolus Linnaeus	b)	Bentham		
		c)	Gaspard Bauhin	d)	Adolf Engler.		
	7.		nts having the flowers with hypog pels only are placed in the taxon	gynoı	us condition and superior ovary with two		
		a)	Thalamiflorae	b)	Bicarpellatae		
	•	c)	Inferae	d)	Unisexuales.		
	8.	The	e cell wall of parenchyma consists	s of			
		a)	cellulose and pectin				
		b)	cellulose and lignin				
•		c)	hemicellulose and pectin				
		d)	hemicellulose and lignin.		•		
	9.	The cyanobacteria used for artificial inoculation of rice is					
		a)	E. coli	b)	Bacillus		
		c)	Nostoc	d)	Pseudomonas.		
	10.	Cer	cospora personata causes				
		a)	Tikka disease of groundnut				
		b)	Citrus canker				
		c)	Blast disease of rice				
		d)	Tungro disease of rice.				

		3
11.	Phloem parenchyma is abse	ent in
	a) Dicots	b) Monocots
	c) Gymnosperms	d) Pteridophytes.
12.	Polytene chromosomes were	e observed by
	a) Bridges	b) Waldeyer
٠.	c) Balbiani	d) Flemming.
13.	Recombination of chromosor	mes takes place in
	a) Prophase I of meiosis	b) Metaphase I of metosis
	c) Anaphase I of meiosis	d) Telophase I of meiosis.
14.	Restriction enzymes are syn	ithesized by
	a) Bacteria	b) Yeast
	c) Eukaryotic cell	d) all kinds of cells.
		SMOTION B
	Note : i) Answer ar	section - B ny seven questions.
		stion carries three marks. $7 \times 3 = 21$
1 E	Explain tautonym with exam	
	· · · · · · · · · · · · · · · · · · ·	
	Draw the floral diagram of A	
17.	Explain bicollateral vascular	bundle with example.
18.	Draw diagram for Lacunate of	collenchyma and label its parts.
19.	Draw the structure of chrom	nosome and label the parts.
20.	List the important tissue cul	lture centres in India.
21.	What is photolysis of water	?
22.	Define respiratory quotient.	
23.	Explain long day plants and	short day plants with examples.
24.	What are biomedicines ? Giv	ve an example.

SECTION - C

- Note: i) Answer any four questions including Question No. 29 which is compulsory.
 - ii) Draw diagrams wherever necessary.
 - iii) Each question carries five marks.

 $4 \times 5 = 20$

- 25. Give an account of phylogenetic system of classification.
- 26. Explain the structure of sieve elements.
- 27. Write about the significance of mutation.
- 28. Explain the enzymatic method of isolation of protoplasts.
- 29. What are the differences between C_3 and C_4 pathways?

il effects of ethylene.

of plant breeding.

SECTION - D

Note: i) Answer any two questions.

- ii) Draw diagrams wherever necessary.
- iii) Each question carries ten marks.

 $2 \times 10 = 20$

- 32. Describe Datura metal in technical terms.
- 33. Explain the anatomy of Dicot leaf.
- 34. Write an essay on transgenic plants.
- 35. Draw Krebs' cycle without explanation.

PART - II (ZOOLOGY)

(Marks : 75)

SECTION - A

Note: 1) Answer all the questions.

		ii) Choose and wr	ite the	e correct answer.	
		iii) Each question	carrie	s one mark. $16 \times 1 = 16$	
1.	The human hereditary disease caused due to defective autosomal dominant gen				
	a)	Sickle cell anaemia	b)	Thalassemia	
	c)	Huntington's chorea	d)	SCID.	
2 .	Dr.	Ian Wilmut has produced a clo	ned sl	neep called Dolly by the method of	
	a)	nuclear transplantation	b)	cytoplasmic transplantation	
	c)	chromosomal transplantation	d)	organ transplantation.	
3.	The	hazardous biomedical wastes a	are us	ually disposed of by means of	
	a)	landfills	p)	deep well injection	
	c)	surface impoundments	d)	incineration.	
4.	The call	• •	ia tha	t are capable of degrading oil spills are	
	a)	sulphur bacteria	b)	ammonia bacteria	
	c)	super bugs	d)	rhizobium.	
5.	Vita	amin A plays an important role i	in		
	a)	Bone growth	b)	Blood clotting	
	c)	Visual perception	d)	Energy production.	
6.	Wh	ich one of the following is an au	itoimn	nune disease ?	
	a)	Myasthenia gravis	b)	Diabetes	
	c)	Stroke	d)	AIDS.	
В				[Turn over	

7. Stones formed in the urinary bladder can be disintegrated by a treat							
	a)	Haemodialysis	b)	Bypass surgery			
	c)	Lithotripsy	d)	Kidney transplantation.			
8.	At the termination of menstruation the corpus luteum is converted into a tissue called						
	a) .	Corpus callosum	b)	Corpus albicans			
	c)	Corpus striatum	d)	Endocrine tissue.			
9.	9. Which one of the following is draught breed of cattle?						
	a)	Kangayam	b)	Jersey			
	c)	Sindhi	d)	Ongole.			
10.	The	vitamins found much in fish foo	d are				
	a)	Vitamins A and D	b)	Vitamins B_1 and B_6			
	c)	Vitamins C and E	d)	Vitamins K and E.			
11.	1. The instrument used for counting the blood cells is						
	a)	Haemocytometer	b)	Sphygmomanometer			
	c)	Electrocardiogram	d)	Thermometer.			
12.	McE	nd proved the concept of					
	a)	direct action of environment on organism					
	b)	b) learning is an acquired character					
	c)	speed of learning is increased from generation to generation					
	d)	d) variations are the raw materials for evolution.					
13.	Plag	Plague is caused by					
	a)	Vibrio cholerae	b)	Yersinia pestis			
	c)	Plasmodium vivax	d)	Trypanosoma gambiense.			

14.	Parasitic infections which man acquires from animals are known as					
	a)	Anthroponoses	b)	Zoonoses		
	c)	Infectious diseases	d)	Animal diseases.		
15.	The	more promising chemotherapeu	tic ag	gent for treating viral disease	is	
	a)	Ampicillin	b }	Penicillin		
	c)	Interferon	d)	Erythromycin.		
16.	Imn	nunoglobulin is secreted by				
	a)	T-lymphocyte	b)	B-lymphocyte		
	c)	Macrophages	d)	Mast cells.		
		SEC	rion	- B		
		Note: i) Answer any eight	quest	ions.		
		ii) Each question car	ries t	hree marks.	$8\times3=24$	
17.	Write the characteristics of Osteomalacia.					
18.	What is Hering-Breuer Reflex?					
19.	What is amoebiasis?					
20.	Define the term 'antigen'.					
21.	Write any two functions of antibodies.					
22.	What is called pedigree analysis ?					
23.	What is DNA library?					
24.	What is greenhouse effect?					
25.	What is meant by seeding of clouds?					
26.	What are the control measures of cow-pox?					
27.	What are the advantages of artificial insemination?					
28.	. State the germ plasm theory.					
В					[Turn over	

SECTION - C

- Note: i) Answer any three questions including Question No. **31** which is compulsory.
 - ii) Each question carries five marks.

 $3 \times 5 = 15$

- 29. Explain briefly right and left brain concept.
- 30. Write the symptoms of AIDS, defined by WHO.
- 31. What are the symptoms of graft rejection?
- 32. Mention the ethical problems of cloning.
- 33. Write a short note on Neo-Lamarckism.

SECTION - D

Note: i) Answer any two questions.

ii) Each question carries ten marks.

 $2 \times 10 = 20$

- 34. Explain the process of inspiration and expiration.
- 35. Write an essay on menstrual cycle.
- 36. What is known as energy crisis? What are the steps taken to solve energy crisis?
- 37. Give an account of origin, distribution, characters and milk production of dairy breeds.