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Number				

### Part III — BIOLOGY

(English Version)

Time Allowed: 3 Hours]	Color Bridge Color	[ Maximum Marks	. 100
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N. B.: Candidates should answer Part - I (Botany) & Part - II (Zoology) in separate answer-books.

Watson.

d)

### PART - I ( BOTANY )

( Marks : 75 )

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		, h,	SECT	CION	- A
# E				100	Captopelales
		Note: i)	Answer all th	ne qu	iestions.
		<b>ji)</b>	Choose and	write	the correct answer.
1.	Prot	oxylem lacuna is p	resent in		280
	a)	Monocot stem	and to	b)	Monocot root
	c)	Dicot stem		d)	Dicot leaf.
2.	The	type of chromoson	nal aberration	s fou	nd in Pea is
	a)	deletion		b)	duplication
	c)	inversion		d)	translocation.
3.	Clov	ver leaf model of tR	NA was sugge	ested	by
	a)	Johannsen	ees to trees	b)	Waldeyer

c) R. W. Holley

[ Turn over

 $14 \times 1 = 14$ 

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				ોંલ
4.	Res	striction enzymes are synthesized	d by	
	a)	bacteria only	b)	yeast
	c)	eukaryotic cells only	d)	all kinds of cells.
5.	Aca	alyphine is extracted from		
	a)	Aegle marmelos	b)	Acalypha indica
	c)	Cissus quadrangularis	d)	Mimosa pudica.
6.	The	e binomial of Teak is		Management of the September of the Septe
	a)	Thespesia populnea	b)	Tectona grandis
	c)	Gossypium barbadense	d)	Pterocarpus santalinus.
7.	Pla	nts having flowers with free peta	ls ar	e found under
	a)	Monochlamydeae	b)	Monocotyledons
	c) '	Gamopetalae	d)	Polypetalae.
8.	The	e number of fertile stamens in Sc	hiza	nthus pinnatus is
1	a)	one	b)	two
	c)	three Many Supplement A	d)	four.
9.	Tra	weller's palm' refers to		
	a)	Musa paradisiaca		Mark Branskyn (1776 – 179 ústř
	b)	Heliconia sp.		1000566 65
	c)	Strelitzia reginae		and the second second
	d)	Ravenala madagascariensis.		gui Alles to Johnne hed witch?
10.	Bico	ollateral vascular bundles are see	n in	the members of
	a)	Malvaceae	b)	Musaceae
	c)	Solanaceae	d)	Cucurbitaceae.

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11.	The	plant that produces biode	gradable pl	astic is
	a)	Petunia hybrida	b)	Beta vulgaris
	c)	mouse-eared cress	d)	Avena sativa.
12.	An	example for primary pigme	nt is	
2 =	a)	chlorophyll a	b)	chlorophyll b
	c)	phycobilins	d)	xanthophyll.
13.	H 2	S is oxidised to sulphur by	7	
	a)	Clostridium	b)	Nitrosomonas
	c)	Viscum	d)	Beggiatoa.
14.	Gly	ycolysis occurs in	at beoregon	remide sent sitt motolem Visitati (tra
	a)	peroxisome	b)	cytoplasm
	c)	mitochondria	d)	chloroplast.
			nada katak	
		Smil	SECTION	-Been amoras of the unit of
		Note: Answ	ver any seu	pen questions. $7 \times 3 = 21$
15.	Wl	nat is called author citation	? Give an	example.
16.	Wı	rite any three points compa	ring the an	droecium of Malvaceae and Solanaceae.
17.	Dr	aw and label the parts of o	pen vascul	ar bundle.
18.	W	hat are called passage cells	?	
19.	Dr	aw and label the parts of a	crocentric	chromosome.
		hat is splicing?		adumol unor
21.	St	ate the conditions under wh	nich cyclic	photophosphorylation occurs.
	e .	efine SCP. Give an example		
		hat is Richmond Lang effec	continued for	edianese EAG no years no servi. AS
		hat is rice bran oil ? Write		ses of it.

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#### SECTION - C

- Note: i) Answer any four questions including Question No. 25 which is compulsory.
  - ii) Draw diagrams wherever necessary.

 $4 \times 5 = 20$ 

- 25. Bring about the significance of herbarium.
- 26. Write short notes on vessels.
- 27. Write short notes on structure of chromosome.
- 28. Briefly mention the basic concept involved in plant tissue culture.
- 29. Explain the different phases of growth with sigmoid curve.
- 30. Bring about the physiological effects of auxin.
- 31. Bring out the economic importance of groundnut.

#### SECTION - D

- Note: i) Answer any two questions.
  - ii) Draw diagrams wherever necessary.

 $2 \times 10 = 20$ 

- 32. Describe Datura metal in botanical terms. Draw floral diagram and write the floral formula.
- 33. Write anatomical differences between dicot stem and monocot stem.
- 34. Write an essay on DNA recombinant technology.
- 35. Write an account on Glycolysis (explanation or flow-chart).

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## PART - II (ZOOLOGY)

( Marks : 75 )

## SECTION - A

		Note: i)	Answer all q	uestion	ns. miliulos a rasy	H to
		ii)	Choose and	write t	he correct answer.	16 × 1 = 16
1.	Th	ne virus which c	auses smallpo	x is	vieratui	d . A
	a)	Paravirus	estiV els oguiti	b)	Hepatitis B virus	w 6
	c)	Variola virus	lbox to metrace	d)	Oncogenic virus.	rescale in
2.	W	hich one of the f	ollowing is a se	exually	transmitted disease?	
	a)	Plague		b)	Typhoid William William	d _ (t)
	c)	Syphilis	rimix pilodicipistă	d)	Cholera.	
3.	MI	HC genes in mou	ise are located	in	lable planta protein fibrius	
	a)	Chromosome	1	b)	Chromosome 2	
	c)	Chromosome :	20	d)	Chromosome 6.	
4.	Wh	uch one of the fo	ollowing geneti	c disea	ses mostly affects boys?	
	a)	Albinism		b)	Agammaglobulinemia	
	c)	Thalassemia		d)	Huntington's chorea.	
5.	Wh	ich of the followi	ing is not an ir	ndigeno	ous breed of fowls ?	
	a)	Busra			Chittagong	
	c)	Brahma		d)	Aseel.	
6.	An e	example for brac	kish water fish	ı is	BIMI ISTIGEORES	
	a) ·	Tilapia		b)	Koduva	Vanez Sa
	c) ·	Maththi	HCADRI E ASTROSS	d)	Vanjiram.	J
A			become bir		· Production passonaggi	

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7.	The	WBC diluting fluid is called	epani.	
	a)	Turks solution	b)	Fehling's solution
	c).	Hayem's solution	d)	Benedict's solution.
8.	The	book 'Process of Organic Evolu	ution'	was written by
	a)	Dobzhansky	b)	Stebbins
	c)	Wardy-Weinberg	d)	Hugo de Vries.
9.				eposition of sodium urate crystals on th
	arti	icular cartilage, synovial membr	rane a	nd in the periarticular tissues?
	a)	Infective arthritis	b)	Osteoarthritis
	c)	Rheumatic arthritis	d)	Metabolic arthritis.
10.	The	e soluble plasma protein fibrino	gen is	converted to insoluble protein fibrin by
	a)	Prothrombin	b)	Thrombin The Land Control of the Land Control
•	c)	Prothrombinase	d)	Thrombokinase.
11.	The	e device used to record the elec	trical	activity of the brain is
	a)	Electrocardiogram	b)	Electro-encephalogram
	c)	Echo-cardiogram	d)_	Endoscopy.
12.	Ur	ea biosynthesis takes place in	1011130	Friday of the lobusties is not an too
	a)	blood	b)	liver
	c)	cerebrospinal fluid	d)	kidney.
13.	Gir	ngivitis is caused by	-,   4	
	a)	Leishmania donovani	b)	Giardia intestinalis
	c)	Trypanosoma gambiens	d)	Trichomonads.

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14	4. W1	hich one of the following is no	ot an ozone depleting substance	?
	a)	Chlorofluorocarbons	b) Nitrogen oxides	
es dota	c)	Methyl bromide	d) Hydrogen.	
15	. Bio	o-medical wastes are removed	by	
	a)	land filling	b) deep-well injection	etholeti (88
	c)	surface impoundments	d) incineration.	ob spew .co
16	. For	the transfer of whole nucleate.	clei, the cells are treated w	ith to
	a)	Polyethylene glycol	b) Dinitrophenol	aistroaa (L. 185
	c)	Cytochalasin B	d) Colchicine.	33. Vesterals
17	Class		ny eight questions.	8 × 3 = 24
18.	Ment	tion the functions of corpus lu	iteum.	24 Describe
		are macrophages acting as a	phagocytic barrier ?	I minigrifi (dili
21.	Write	any three preventive measur	es of graft rejection.	
22.	What	is pedigree analysis?	no sa kangba evepundos odi.	978 00 (1445)
23.	What	is cDNA?	oldiso lo abas	no. 2000a
24.	What	is differentiation?		
25. ′	The fu	iture source of power is Hydr	ogen. Why ?	
26.	What:	is artificial pacemaker?		
27. \	What :	are the characteristic feature	s of Aseel breed of fowl?	* * * * * * * * * * * * * * * * * * * *
	State I	Hardy-Weinberg's law.		
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#### SECTION - C

Note: Answer any three questions including Question No. 31 which is compulsory.  $3 \times 5 = 15$ 

- 29. Describe the process of absorption and assimilation of digested food.
- 30. Write the pathogen, symptoms and mode of transmission of Rabies and Cholera.
- 31. Write a short note on activation of adaptive immunity.
- 32. Describe the Karyotyping of Human chromosomes.
- 33. Write the role of genetic drift in evolution.

#### SECTION - D

Note: Answer any two questions.

 $2 \times 10 = 20$ 

- 34. Describe the origin and conduction of heartbeat and cardiac cycle.
- 35. Explain the types of hearing loss and the correcting measures adopted.
- 36. Write an essay on non-hazardous solid waste management.
- 37. What are the techniques adopted in cattle breeding? Write a short note on the exotic breeds of cattle.