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15P/292/23

Question Booklet No., 13 / /

(To be filled up by the candidate by blue/black ball-point pen)

(Use only blue/black ball-point pen in the space above and on both saces of the fallower office,

- Within 10 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that
  it contains all the pages in correct sequence and that no page/question
  Question Booklet bring it to the notice of the Superintendent/Invigilators imm
  fresh Question Booklet.
- Do not bring any loose paper, written or blank, inside the Examination Hall except the Admit Card without its envelope.
- A separate Answer Sheet is given. It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.
- 4. Write your Roll Number and Serial Number of the Answer Sheet by pen in the space provided above.
- On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.
- No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and also Roll No. and OMR Sheet No. on the Question Booklet.
- 7. Any change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.
- 8. Each question in this Booklet is followed by four alternative answers. For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by ball-point pen as mentioned in the guidelines given on the first page of the Answer Sheet.
- For each question, darken only one circle on the Answer Sheet. If you darken more than one circle
  or darken a circle partially, the answer will be treated as incorrect.
- 10. Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero mark).
- For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.
- 12. Deposit only the OMR Answer Sheet at the end of the Test.
- 13. You are not permitted to leave the Examination Hall until the end of the Test.
- 14. If a candidat as the Unive

form of unfair means, he/she shall be liable to such punishment and impose on him/her.

| उपर्युक्त निर्देश हिन्दी में :

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[No. of Printed Pages: 28+2



### No. of Questions/प्रश्नों की संख्या : 150

Time/समय : 21/4 Hours/घण्टे

Full Marks/पूर्णांक : 450

Note: (1)

- Attempt as many questions as you can. Each question carries 3 marks.
   One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.
  - अधिकाधिक प्रश्नों को हल करने का प्रयत्न करें। प्रत्येक प्रश्न 3 अंक का है। प्रत्येक गलत उत्तर के लिए एक अंक काटा जाएगा। प्रत्येक अनुत्तरित प्रश्न का प्राप्तांक शून्य होगा।
- (2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.

यदि एकाधिक वैकल्पिक उत्तर सही उत्तर के निकट प्रतीत हों, तो निकटतम सही उत्तर दें।

- 1. 5-bromouracil acts as a mutagen by pairing with
  - (1) adenine
- (2) guanine
- (3) cytosine
- (4) thymine
- 2. An organism capable of carrying out butanol fermentation is
  - (1) Zymomonas

- (2) Clostridium butyricum
- (3) Clostridium acetobutylicum
- (4) Enterobacter

(P.T.O.)

		(2) Meaales	(3) Rabies	(4) Polio
0.	Antigenic variation (1) Influenza virus (3) Measles virus	us	ve in (2) Smallpox virus (4) Herpes virus	16
7.	Which of the folk	owing is not a DN (2) T4 phage		(4) Adenovirus
<b>8,</b>	During meiosis, c	rossing-over mostl (2) prophase II	y occurs during (3) anaphase I	(4) Telophase II
	Human papilloma (1) Hepatitis (3) AIDS	virus causes whic	th of the following? (2) Cervical cance: (4) Oral cancer	
(332)		2		

	(1) haptens	(2) carriers	(3)	antigens	(4)	antibodies	5
12.	Which of the following	lowing has a ds I	)NA ge	nome?		3	
	(1) CaMV	(2) CMV	(3)	Viroid	(4)	TLCV	
13.	Ergot disease is	caused by					
	(1) Claviceps	(2) Rhizopus	(3)	Puccinia	(4)	Mucor	
14.	The PMF drives p synthesize ATP	protons across mic in a process know	crobial i	membranes,	and th	e energy is	used to
	(1) chemiosmos	is	(2)	photosynthe	sis .		
	(3) respiration	ε	(4)	chemolithot	rophy		
15.	All of the follow	ing apply to bact	erial pl	asmids, exce	pt	ű.	
	(1) they are set	f-replicating loops	of DN	A			
	(2) they have 1	0-50 genes			•		
	(3) they are rec	uired in bacteria	conju	gation			
	(4) they are est	sential for surviva	l of the	e organism			
			3			¥	(P.T.O.

- (4) the virus fails to replicate in the bacterial cell
- 17. UV light causes mutation in bacteria by
  - (1) causing frame-shift
  - (2) causing inversion
  - (3) causing dimerization of adjacent thymine residues
  - (4) causing transition
- 18. All except the following is true for Agrobacterium tumefaciens
  - (1) it carries the Ti plasmid
  - (2) it carries oncogenes on its plasmid
  - (3) it causes crown gall disease
  - (4) it is a Gram-positive bacterium
- 19. The capsular material produced by bacteria generally consists of
  - (1) lipids

(2) polysaccharides

(3) fatty acids

(4) nucleic acids

	(1) bacteria	(2) fungi	(3) algae	(4) viruses				
22.	The enzyme that replication is a	relaxes superco	iling ahead of the re	plication for	y.			
	(1) methylase	(2) DNA gyras	se (3) primase	(4) transposase				
23.	The metal used	to recover coppe	er from a solution o	f copper sulphate is	<b>.</b>			
	(1) Fe	(2) Hg	(3) Ag	(4) Mn	25			
24.	Hap70 is a			5 g es				
	(1) heat shock protein							
	(2) produced by	heat stressed I	E. coli		VE			
21	(3) helps remov	e denatured pro	teins		4.0			
	(4) All of the al	bove		19 E				
25.	Endospore form	ation in Bacillus	is triggered by	*0	I,			
	(1) starvation		4	2 19				
•	(2) desiccation	**************************************	N	1				
	(3) growth inhi	bitory temperatu	ırcs					
*	(4) All of the a	bove						
(332)			5	* 4	(P.T.O.)			

(7) it has an M, approximately 109 kl
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	(7) it has an Mr	approximately	109 kDa	
27	7. A compound light	microscope ca	annot resolve structi	Mcs wording vac-
	(1) 10 μm	(2) 5 μm	(3) 2 μm	(4) 0·2 μm
28.	An envelope is acc	quired by certa	ain viruses when the	ty
	(1) enter the host	cell nucleus		
	(2) migrate to the		v	
	(3) assemble in th	200.000		
	(4) bud through th		embrane	
29.	. HIV forms DNA fro	m its RNA ten	nplate using the follo	Owing enzyme
	(1) RNA polymeras	e .	(2) Primase	o diagratic
	(3) Reverse transcr	iptase	(4) Helicase	
30.	Which of the follow	ing are incapa	ble of producing tox	cins in the hodge
	(1) Clostridium tetar	ni .		July 1
	(2) Human immuno	deficiency viru	LŠ	
	(3) Escherichia coli			
	(4) Clostridium botu	linum		x g
332)			6	

32.	All of the following represent non-spe	,						
	(1) IgG production							
	(2) production of mucus by the line	(2) production of mucus by the lining of the respiratory tract						
	(3) production of acid in the stoma	(3) production of acid in the stomach						
	(4) phagocytosis by macrophages							
33.	A visible clumping of particles occu	ars to the observer in						
	(1) ELISA	(2) Agglutination test						
	(3) Precipitation test	(4) Radioimmunoassay	, A					
34.	Complex 1 of the electron transpor							
	(1) succinate/coq oxidoreductase	(2) cytochrome c oxidase						
	(3) ubiquinone	(4) NADH/co oxidoreductase						
35.	Antibiotics are largely produced by	bacteria during						
3	(1) lag phase	(2) log phase						
	(3) stationary phase	(4) decline phase						
(200		7	(P.T.O					
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	_	
	(1) a specific micro-organism to	a specific dise
	(2) spontaneous generation of m	
	(3) production of toxins to disease	
	(4) transmission of sleeping sick	ness to tectse flies
38.	The number of moles of solute p	resent in one Kg of a solvent is called
	(1) normality	(2) molality
	(3) molarity	(4) None of the above
39.	The transfer of RNA onto a nitrocell	lulose membrane and its detection is part of
	(I) Southern blotting	(2) Northern blotting
	(3) Western blotting	(4) South-Western blotting
40.	E. coli chromosome contains appr	34-03-04-04-04-04-04-04-04-04-04-04-04-04-04-
-		(3) 4000 ORFs (4) 8000 ORFs
41.		a solution of 0.1 M NaOH ( $Kw = 1 \times 10^{14} \text{ M}^2$ )?
	(1) $10^{-11}$ M (2) $10^{-12}$ M	(3) 10 <sup>-13</sup> M (4) 10 <sup>-14</sup> M
(332)		8 ·
	0.48	

	(4) rod shaped encapsulated cells		(40)	
43.	Phylogenetic tree of bacteria is cons	struci	ted based on the sequencing	OI
	(1) 18S rRNA	(2)	16S rRNA	35
•	(3) DNA	(4)	All of the above	
44.	Pasteurization involves treatment w	ith		
	(1) low temperature	(2)	steaming	
	(3) high temperature	(4)	low and high temperatures	
	€		u	
45.	Common food poisoning microbes a	are		r)
	(1) Clostridium and Salmonella	(2)	Clostridium and E. coli	
	(3) E. coli and Salmonella	(4)	Clostridium and Rhizobium	
	* 1			
46.	The Pine seedlings grow best in so	ils w	th	
	(1) VAM	(2)	Ectotrophic mycorrhiza	
	(3) Arbutoid mycorrhiza	(4)	Ericoid mycorrhiza	-2
332)	•	9	a	(P.T.O.,
	. (4			

	(1) is essentially a saprophyte but can also live as a parasite
	(2) always lives as a parasite
	(3) never causes disease in a host
2	(4) can only live as a saprophyte
49.	A clear area in the lawn of growing bacterial cells initiated upon bacteriophage infection is called
	(1) inhibition zone (2) plaque
	(3) halo (4) colony forming unit
50.	Water
	(1) can give up an H <sup>+</sup> , becoming OH <sup>-</sup>
	(2) can accept an H <sup>+</sup> , becoming H <sub>3</sub> O <sup>+</sup>
	(3) can form hydrogen bonds
	(4) All of the above
51.	SARS involves infection of the
	(1) gastrointestinal tract (2) urinary tract
	(3) respiratory tract (4) genitourinary tract
(332)	10

	(4) at a site other than the act	tive site in a noncomp	petitive manner
53.	When four different groups are structure formed is a	e attached to a tetra	hedral carpon atom, the
	(1) isomer	(2) stereoisome	r
	(3) simple hydrocarbon	(4) amphipathi	e molecule
<b>54</b> .	Tubulin in Cilia and Flagella a	re examples of	a a
	(1) hormonal proteins	(2) storage pro	teins
j	(3) motility proteins	(4) defence pro	oteins
55.	Hydrogen bonds cannot form b	oetween	
	(1) water and glucose	(2) water and	water
	(3) water and phosphate	(4) phosphate	and octane
56.	If a length of DNA has 45000 B-DNA take?	base pairs, how ma	ny complete turns will a
	(1) 45 (2) 450	(3) 4500	(4) 45000
٥			(P.T.O.)
(332)		11	12.1.0.,

58.	Gram staining is a technique us	sed for	differentiating bacterial of	ells on r	he basis
	of their	15		,,,,	in Dudin

(1) reproduction

(2) inclusions

(3) cell wall composition

(4) flagellation

#### 59. The lac operon is

- (1) under the control of catabolite repression
- (2) under the control of its own specific negative regulatory system
- (3) Both positively and negatively controlled
- (4) All are correct

## 60. Which of the following is normally associated with the production of hybridomas secreting a desired monoclonal antibody?

- (1) Blockage of the nucleotide salvage pathway by aminopterin
- (2) Mitogen-induced antibody diversity
- (3) Myeloma cells producing antibodies
- (4) None of the above

	(1) 62-9 °C for 30 minutes	(5) LLO C IDL 19 seconds
	(3) 71.6 °C for 30 minutes	(4) 82 °C for 5
63.	Strictly anaerobic, anoxygenic photo fixation are	trophs that use the Calvin cycle for CO2
	(1) nitrifying bacteria	(2) green sulphur bacteria
	(3) purple sulphur bacteria	(4) sulfur oxidizing bacteria
64.	The toxin produced by Bacillus thur	ingiensis is
	(1) a lipid with insecticidal properti	28
	(2) a protein with insecticidal prope	rties
	(3) a lipid with antiviral properties	
	(4) a sugar with insecticidal proper	ties
65.	One of the major reasons for apopt	osis is
91	(1) lack of polymerase	(2) activity of endonucleases
12	(3) activity of mitochondria	(4) reduced food intake
66.	Phytoplanktons are dominant in wh	ich of the following zones?
	(1) Limnetic (2) Profundal	(3) Littoral (4) Benthic
3 <b>32</b> )	- 13	(P.T.O.)
· 5	All	

	(4) safe antibiotics							
68.	Which of the following	ng compounds	woul	d have the h	ighest	boiling point?		
	(1) CH3CH2CH2CH3		(2)	CH3NH2				
	(3) CH <sub>3</sub> OH		(4)	CH <sub>2</sub> F <sub>2</sub>				
69.	Number of protofilar	nents in a micr	otub	ule is				
	(1) 5 (2	10	(3)	12	(4)	13		
70.	P <sub>870</sub> reaction centre	is associated wi	th t	he photosynti	hetic r	nachinery in		
	(1) cyanobacteria		(2) purple bacteria					
	(3) green bacteria		(4)	algae	9			
71.	Enzymes that cataly acceptor are called	ze the transfer	of a	ı phosphoryl	group	from ATP to ar		
	(1) kinases		(2)	hydrolases				
	(3) mutases		(4)	oxido-reduct	ascs			
(332)	gr.	14						
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73.	Direct microscopic of all of the follow		ed to	determine th		latian
	(1) virus	(2) bacteria	(3)	protozoa	(4) fungi	
74.	The polysaccharid	e used to solidify	bact	erial growth m	edia is	
	(1) Gelatin		(2)	Agar		
	(3) Starch		(4)	All of the above	ve	
75.	Micro-organisms t	hat survive in the	e abs	ence of moistu	re do so becau	se
×	(1) they produce t	lagella	(2)	metabolize glu	icose	
	(3) have no cell n	nembranes	(4)	produce spore	:s	
<b>,76</b> .	Two components	of the cell membr	rane i	n prokaryotes	are	s)
	(1) DNA and RNA		(2)	ATP and lipide	B	
	(3) lipids and DN	Α .	(4)	lipids and pro	teins	
77.	Organic molecules	functioning as o	oenzy	mes/cofactors	of enzymes are	;
	(1) ubiquinone an	d cytochromes	(2)	NAD and FAD	,	
	(3) ATP and ADP	e	<del>(4)</del>	glucose and p	yruvate	
(332)		· 1	5			(P.T.O.)

	(3) polysaccharide	(4) lipid
80.	Central dogma of genetic informati	on has been modified by the discovery of
	(1) reverse transcriptase	(2) DNA polymerase
	(3) restriction endonuclease	(4) RNA polymerase
81.	Electron from Cyt C are carried to	molecular O <sub>2</sub> in
	(1) fermentation	(2) aerobic respiration
	(3) anaerobic respiration	(4) denitrification
82.	A sexually transmitted disease sh genitals is caused by	owing development of a chancre on the
	(1) Neisseria gonorrhoeae	
	(2) Treponema pallidium	
	(3) Hepatitis B virus	#
	(4) human immunodeficiency virus	
(332)	10	5

	(1) Xanthomonas campestris	(2) Bactials truring	
	(3) Trichoderma harzianum	(4) Nuclear polyhedrosis virus	
1 <b>5.</b>	When the F-factor is transferred receiving bacterium	to a bacterium during conjugation, the	•
	(1) becomes resistant	(2) acquires a capsule	
	(3) converts to donor bacterium	(4) dies	
16.	Most cases of tetanus are due		
	(1) deep wounds	(2) respiratory droplets	
	(3) bites of arthropods	(4) consuming unpasteurized milk	•
17.	Immunization with Sabin vaccine is	s to protect against	
*	(1) HIV (2) Tuberculosis	(3) Polio (4) Hepatitis	
<b>18</b> .	The noncoding RNA include		25
	(1) rRNA	(2) tRNA	
	(3) mRNA	(4) Both rRNA and tRNA	
32)	11	.7 (P.T.O.)	)

	50	
	(1) antibiotic production	(2) Sauer reduction
	(3) alcohol production	(4) citric acid production
91.	Tetracyclines are antibiotics that pro-	event the synthesis of
12.	(1) cell wall	(2) nucleic acid
	(3) protein	(4) cytoplasmic membrane
92.	Nitrogenase is an enzyme that regul	lates
	(1) nitrogen fixation	(2) nitrification
	(3) nitrate dissimilation	(4) denitrification
93.	A mutation in which one amino acid	d is substituted for another is called
	(1) deletion	(2) frame-shift mutation
	(3) nonsense mutation	(4) missense mutation
94.	Both DNA and RNA absorb maximal	lly at
	(1) 210 nm (2) 280 nm	(3) 300 nm (4) 260 nm
	*	•
(332)	18	

	(3) competition	(4) predation
97.	Zoogloeas are	5. S
	(1) viruses (2) bacteria	(3) nematode (4) algae
98.	Prochloron is an oxygenic phototropi	h which contains
	(1) Chlorophyll a	(2) Chlorophyll b
	(3) Both Chlorophyll a and b	(4) Phycobilins
99.	In the ocean, spiralling surface current micro-organisms are called	nts that concentrate nutrients, wastes and
	(1) geothermal vents	(2) gyres
	(3) red tides	(4) photic zone
.00.	What is the mean number of bases	per twist in Z-DNA?
	(1) 10 (2) 9	(3) 11 (4) 12
01.	Hartig net is associated with, select	the most appropriate one
	(1) Ectotrophic mycorrhiza	(2) Endotrophic mycorrhiza
	(3) Ectoendotrophic mycorrhiza	(4) Basidiomycetes
332)	19	(P.T.O.)
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	. ·	1-1 -	(o	jo	(4)	4			
104.	Which among t	hese is not a n	nycotoxin	?					
	(1) Aflatoxin	s	(2)	Patulin					
	(3) Ochratoxin		(4)	8-toxin					
105.	Acetic acid, lact significant amou	ic acid, succin	ic acid, e	thanol, (	CO <sub>2</sub> and H	2 are prod	uced		
	(1) mixed-acid f	ermentation	(2)	butaneo	iol fermen	tation			
	(3) alcoholic fer	mentation			cid ferment				
106.	The number of p	The number of pathogens that either kill or infect 50% of an an							
	(1) ID <sub>50</sub>	y.	(2)	D value					
	(3) LD		(4)	None of	the above				
107.	Which of the foll	lowing statemen				-i <b>^</b>			
	(1) They are sec	Which of the following statements is untrue for the endotoxins?  (1) They are secreted by the bacterial cells							
					e haatania		•		
	(3) They are hea	They are generally produced by Gram negative bacteria They are heat stable							
	(4) They are wea	kly immunoger	nic						
(332)		_	20		* .				

	(1) conjugation	(2) transformation	
	(3) transduction	(4) All of the above	
110.	The drug AZT, effective against HI	/, is	
	(1) DNA polymerase		
	(2) reverse transcriptase inhibitor		
	(3) RNA polymerase		
	(4) protease inhibitor		
111.	Mctal that is used as a catalyst in	hydrogenation of oils is	
r	(1) Ni (2) Pb	(3) Zn (4) Cd	
112.	Nod factors		
	(1) help in the formation of nodul	e .	
	(2) induce root hair curling		
	(3) trigger plant cell division	2	
	(4) do all of the above		
(332)		21	(P.T.O.)

	specimens	with a protein sequence present in test
	(4) capacity of ds DNA to hybridize specimens	with a protein sequence present in test
114.	Coliform bacteria are	
	(1) Gram negative	(2) non-spore forming
	(3) rod shaped	(4) All of the above
115.	In the lac operon, the enzyme perme	case is coded by
	(1) lac Z (2) lac Y	(3) lac A (4) lac i
116.	Regulation of gene expression by atta	enuation is a feature seen in
	(1) to an	(3) ara operon (4) lac operon
117.	Class II MHC are expressed on	ar test
	(1) β-cells	(2) macrophages
	(3) dendritie anti-	(4) All of the above
(332)	22	

	the other is		-	q
	(1) Arginine	•	(2) Aspartic acid	
	(3) Threonine		(4) Tryptophan	
1 <b>20</b> .	During DNA repli	cation in bacteria,	Single Stranded B	inding (SSB) proteins
	(1) monomers	(2) dimers	(3) trimers	(4) tetramers
121.	The first algal vir	us among the gene	era cyanobacteria w	as named
	(1) LPP-4	(2) LPP-8	(3) LPP-6	(4) LPP-1
122.	RecA, an enzyme as a	required during rec	combination in bact	eria, can also function
	(1) integrase	(2) protease	(3) galactosidase	(4) exonuclease
123.	Tumour formation	in cancer is an o	outcome of	
	(1) transformation	n of a cell	Sec.	a u
2	(2) immortalization	on of a cell		
	(3) transformation	n and immortalizat	ion of a cell	d <sub>ga</sub>
	(4) None of the a	bove	t.	
(332)		23	3	(P.T.O.

	99 ml of water to give a dilu	tion of	sterred to a flask conte	aining					
	(1) $10^{-2}$ (2) $10^{-3}$	(3) 10-4	<del>(4)</del> 10 <sup></sup>						
126.	. Pyruvate dehydrogenase in th	ne mitochondrial mai	rix converts						
	(1) glucose into glucose-6-ph	osphate	Ŧ						
	(2) glyceraldehydes-3-phospho	ate to pyruvate							
	(3) reduction of FAD to FADI	H <sub>2</sub>							
	(4) pyruvate into acetyl CoA	and CO <sub>2</sub>	,						
127.	. CO <sub>2</sub> is assimilated by phosp forming oxaloacetate in	phoenolpyruvate carb	oxylase in mesophyll	cells					
	(1) C <sub>3</sub> pathway	(2) photores	piration						
	(3) fermentation	(4) C <sub>4</sub> pathw	⁄ay						
128.	PS I and PS II absorb light of	f different wavelengtl	due to						
	(1) the presence of different soluble electron carriers								
	(2) different locations in the chloroplast								
	(3) the proteins associated wi	(3) the proteins associated with each reaction center chlorophyll							
	(4) different types of reaction								
(332)	)	24							

	tting. The ti	h <del>e</del> oretica	ıl possibili	ity of t	his	site re	peating	itself	is after	how n	any
(1)	64	(2)	256		(3)	1064	***	.(4)	<b>32</b> .	<b>X</b> 1	
	lerophores ounts	are pro	duced by	bacte	ria	only	when	the fo	ollowing	is in	low
(1)	Cu	(2)	Fe		(3)	Zn	•	(4)	Mn		
A t	series of op	erons co	ontrolled a	as a u	nit	consti	tute a		-		•
(1)	Regulon	(2)	Cistron		(3)	Codor	1	(4)	Riboswi	itch	
۸n	basic icosa	ahedron	is a sym	metric	str	ucture	contai	ining			
(1 <u>)</u>	18 faces a	ınd 8 ve	rtices	•	(2)	20 fac	ces and	12 v	ertices		
(3)	28 faces a	nd 16 v	ertices		(4)	32 fac	ces and	20 v	ertices	,	•
Αc	ommon iso	tope of	iodine us	ed in	radi	oimm	unoass	ay is	3		
(1)	100 I	(2)	125]		(3)	150 [	š	(4)	175 <sub>[</sub>		
				05		٠				/D =	
				25						וייוו	വ

131.

132.

133,

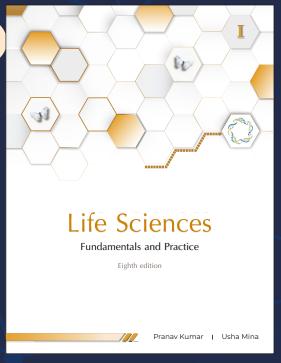
134.

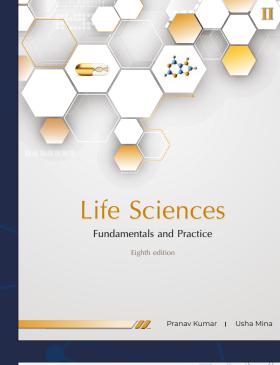
	replication is a	Ness 📱		¥I	
	(1) methylase	(2) DNA gyrase	(3)	primase	
137.	. Characteristic feature(s) of adaptive immunity is				
	(1) antigen specific	city	(2)	self-nonself recognition	
	(3) immunologic n	nemory	(4)	All of the above	
138.	The most abundant rare gas in the atmosphere is				
	(1) Xe	(2) Ar	(3)	He (4) Ne	
139.	Lipoproteins, glycoproteins, flavoproteins are all examples of				
	(1) peptides		(2)	prosthetic groups	
	(3) conjugated pro	teins	(4)	metalloproteins	
140.	O. Fungi differ from algae in being				
	<ul><li>(1) achierophyllous and autotrophic</li><li>(2) chlorophyllous and autotrophic</li><li>(3) chlorophyllous and saprophytic</li></ul>				
22.2	(4) achlorophyllous and heterotrophic				
(332)		26	5	27	

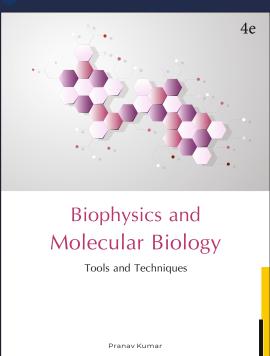
	(4) multiplicity of the ger	ietic code	**				
142.	The bacteria causing ant	hrax was discov	vered by				
	(1) Koch (2) Pa	steur (3)	Fleming	(4) Jenner			
			x 5	•			
143.	Immunologically active region of an immunogen that bind to antigen specific membrane receptors on lymphocytes are						
	(1) epitopes (2) pa	ratopes (3)	CDRs	(4) TLRs			
	2) (4)						
144.	Reactions involving transfer of electrons are catalyzed by						
	(1) hydrolases	(2)	lyases				
	(3) transferases	(4)	oxido-reductas	ies			
	ź						
145.	The group firmicutes includes bacterial species which are						
	(1) Gram +ve	(2)	Gram -ve				
	(3) acid fast	(4)	None of the a	bove			
(332)	s.	27	ie e	(P.T.O.)			

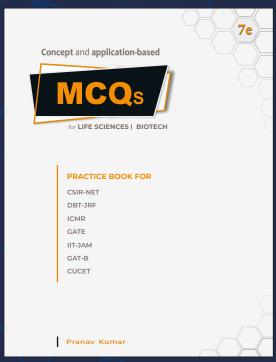
0	(4) None of the above					
147.	Cyanophages were discovered by					
	(1) F. W. Twort and F. d'Herelle (2) Safferman ar	nd Morris				
	(3) Robert Koch (4) Benda					
148.	Number of moles of CO <sub>2</sub> in 16 g of O <sub>2</sub> is					
	(1) 0·1 mole (2) 0·2 mole (3) 0·4 mole	(4) 0·5 male				
149,	Two enzymes which are unique to the glyoxalate cycle are					
	(1) isocitrate lyase and malate synthase					
	(2) malate dehydrogenase and isocitrate lyase					
	(3) malate synthase and malate dehydrogenase					
	(4) malate synthase and citrate synthase					
150.	CAP, the Catabolic Activator Protein, has a role in the expression of the					
	(1) lac operon (2) trp operon (3) ara operon	(4) his operon				
	***					
	28	,				
	<b>40</b>	D/5( <b>332</b> )—2300				











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### अभ्यर्थियों के लिए निर्देश

- प्राची प्रभाग प्राचीमा राहण अपरान्ध्य क कार्यारक, एपछा था सादा काइ मा खुला काग्रज साथ म न लाथ।
- 3. उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूस रित्र का ही मूल्यांकन किया जायेगा।
- अपना अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन से निर्धारित स्थान पर लिखें।
- 5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दे। जडौं-जडौं आवश्यक हो वहाँ प्रश्न-पुस्तिक। का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।
- 6. ओ॰ एम॰ आर॰ पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुस्तिका पर अनुक्रमांक सं॰ और ओ॰ एम॰ आर॰ पत्र सं॰ की प्रविष्टियों में उपरिलेखन की अनुमति नहीं है।
- 7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।
- 8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-यत्र की सम्बन्धित पंक्ति के सामने दिये गये वृक्त को उत्तर-यत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गावा करना है।
- 9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
- 10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।
- 11. एक कार्य के लिये प्रश्न-पुस्तिका के मुखपृष्ठ के अन्दर वाले पृष्ठ तथा अंतिम पृष्ठ का प्रयोग करें।
- 12. परीक्षा के उपरान्त केवल *ओ०एम०आर० उत्तर-पत्र* परीक्षा भवन में जमा कर दें।
- 13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमित नहीं होगी।
- 14. यदि को त साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की, भागी होगा/होग