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Part III — MICROBIOLOGY

4 Chlorine

(English Version)

Time Allowed: 3 Hours]

[Maximum Marks: 150

Note: i) Answer all the questions from Part - A.

- ii) Answer any fifteen questions from Part B.
- iii) Answer only six questions from Part C including Question No. 71 which is compulsory.
- iv) Answer only four questions from Part D.
- v) Draw diagrams wherever necessary.

PART - A

Moto .

- i) Answer all the questions.
- ii) Each question carries one mark.
- I. Choose and write the correct answer in the answer-book:

 $20 \times 1 = 20$

- 1. The discovery of the microbial world of "animalcules" was made by
 - a) Robert Koch

- b) Edward Jenner
- c) Anton von Leeuwenhoek
- d) Fleming.

[Turn over

			그 나타를 하는 사람들이 있었다. 경기 전쟁을 열심하는 것이 하는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없었다. 그 것이 없는 것이 없는 것이 없는 것이 없는 것이 없다.
2.	Which of the following is not	a heavy m	netal?
	a) Mercury	b)	Chlorine
	c) Silver	(d)	Copper.
3.	The World Environment Day	is celebra	ted every year on
	a) 5 th July	b)	5 th April
	c) 5 th June	d)	5 th May.
4.	The highest percentage of ga	s present	in the atmosphere is
	a) CO ₂	b)	02
o an	c) N ₂	d)	so ₂ .
5. Denitrification results in the formation of			
	a) Nitrate	b)	Nitrite
	c) Ammonia	d)	Nitrogen.
6.	Adhesion of Streptococcus p	yogenes t	o pharyngeal epithelial cell is mediated
	by which of the following?	A - 182	
	a) Fimoriae	b)	Lipoteichoic acid
	c) Liposaccharide	d)	Flagella.
7.	Which of the following m	ajor anti	gens is involved in Rheumatic fever
	episodes ?	en sett ett	essents footing only stree that oscond?
	a) Albumin	b)	Myosin
	c) Globulin	d)	Flagellin.
8.	The stool of cholera is		
	a) blood with mucous	b)	rice-water stool
	c) watery stool	d)	normal stool.

9.	Wh	ich enters the body through	ch enters the body through the bite of lice?				
	a)	Borrelia recurrentis	b)	Salmonella			
	c)	Taenia solium	d)	Mycoplasma.			
10.	Sta	Staphylococcus aureus belongs to the family					
*	a)	Enterobacteriaceae		P exagga vivolena single v Colorea 70075 (7) (6)			
	b)	Micrococcaceae					
	c)	Lentiviridae					
	d)	Picornaviridae.	Second to	Parameter short strength			
11.	L. c	donovani is transmitted by					
	a)	Ticks					
	b)	Sand fly	KW. Sin	pur pous Constant pu			
	c)	Mosquitoes		novaw at 3			
	d)	Rat flea.					
12.	Wh	Which of the following is the habitat of adult F. hepatica?					
	a)	Lungs 160 values?	b)	Liver			
	c)	Intestine	d)	Brain.			
13.	Her	patitis A virus belongs to the	efamily	of of			
	a)	Picornaviridae	b)	Caliciviridae			
	c)	Retroviridae	d)	Hepadnaviridae.			
14.	Lyn	ne disease is caused by					
	a)	Borrelia burgdor feri	b)	Chlamydia psittaci			
	c)	Sand fly	d)	Mosquitoes.			
5.	Bru	cella species causes					
	a)	Typhoid fever	b)	Undulant fever			
	c)	Rat bite fever	d)	Viral fever.			

II.

16.	Nurse cells are present in which	organ	n?			
	a) Skin	b)	Intestine			
	c) Liver	d)	Thymus.			
17.	Which antibody appears first aft	er a p	orimary infection ?			
	a) IgA	b)	IgG			
	c) IgM	d)	All of these.			
18.	The genetic code consists of how	man	y codons ?			
	a) 64	b)	32			
	c) 16	d)	128.			
19.	The EcoRI restriction enzyme wa	as iso	lated by			
	a) Watson and Crick	b)	Khorana			
	c) Ames	d)	Herbert Boyer.			
20.	The first attempt to culture anim	nal ce	ells was done by			
	a) Ross Harrison	b)	Stanley Cohen			
	c) Werner Arber	d)	Hamilton.			
Fill	in the blanks:	o the	8 × 1 = 8			
21.	Phase contrast microscope was	first (described by			
22.	is used as a disir	fecta	nt in water purification.			
23.	Common cold is caused by		virus.			
24.	24. The tetanus bacilli with spores give the appearance of					
25.	Botulinum toxin causes		paralysis.			
26.	Typhoid fever is caused by		bacteria.			
27.	The structure of Herpes virus is		a) Typhoid fever			
00	Anticonic determining site of an	anti	gen is called			

III. Answer the following questions by writing True or False:

 $10 \times 1 = 10$

- 29. The lethal effect by certain metals on bacteria is known as oligodynamic action.
- 30. Bacillus thuringiensis is not a biopesticide.
- 31. Treponema pallidum gets transmitted from the mother to the foetus and causes congenital syphilis.
- 32. Rebecca Lancefield introduced a classification of streptococci.
- 33. Diphtheria does not cause bull neck appearance.
- 34. Mycoplasma are cell wall bacteria.
- 35. Niclosamide and Praziquantel are effective for taeniasis.
- 36. RNA is the genome in Herpes Virus.
- 37. Substances which exhibit the phenomenon of fluorescence are called fluorochromes.
- 38. Tuberculin type of hypersensitivity was described by Robert Koch.

IV. Match the following :

 $6 \times 1 = 6$

39. Streptomycin

a) Photo-reactivation

40. Sodium benzoate

b) Reduviid bug

41. T. cruzi

c) Transduction

42. Taenia solium

d) Selman Walksman

43. Pyrimidine dimer

e) Preservative

44. Bacteriophage

f) Intestinal parasite.

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V. Answer the following questions in one sentence each:

6'x 1 = 6

- 45. What is called Bactericide?
- 46. What is Opisthotonos?
- 47. Name the enzymes produced by Vibrio.
- 48. What is Candida?
- 49. What is the genetic material of HIV?
- 50. Which enzyme joins the DNA fragments?

PART - B

Note: i) Answer any fifteen questions.

ii) Each question carries two marks.

 $15 \times 2 = 30$

- 51. What are the types of electron microscope?
- 52. Give two uses of fluorescent microscope.
- 53. Define Glycolysis.
- 54. What is Chemotherapy?
- 55. Define biogas.
- 56. Define aerosol.
- 57. Define Pasteurization.
- 58. What is alpha haemolysis?
- 59. What are the four species of genus Shigella?
- 60. Give the structure of Tetanus bacilli.
- 61. What is the action of exfoliative toxin?
- 62. What is lyme borreliosis?
- 63. Explain the two species of Brucella and their infected animals.

- 64. Where is Candida albicans present in the body? When does it cause an infection?
- 65. What are the modes through which HIV is not spread?
- 66. What is Erythroblastosis foetalis?
- 67. State the beneficial role of IgE.
- 68. Define Immunization.
- 69. Why should a codon have at least three nucleotides?
- 70. What is Wobble hypothesis?

PART - C

- Note: i) Answer any six questions including Question No. 71 which is compulsory.
 - ii) Each question carries five marks.

 $6 \times 5 = 30$

71. Give at least five points to differentiate eumycetes from actinomycetes which cause mycetoma.

OR

Describe Ti plasmid with diagram.

- 72. List out the controlling methods of microorganisms by chemical agents.
- 73. What are the raw materials required for penicillin production?
- 74. Write a short note on oxidation pond.
- 75. Write a short note on Shiga toxin.
- 76. Write a short note on general characters of Vibrio.
- 77. Describe the laboratory diagnosis of Chaga's disease.
- 78. What are the differences between immediate and delayed type hypersensitivity reactions?
- 79. Describe conjugation in bacteria.

PART - D

- Note: i) Answer any four questions.
 - ii) Each question carries ten marks.

 $4 \times 10 = 40$

- 80. Elaborate on the work of Louis Pasteur.
- 81. Elucidate electron microscopy.
- 82. What are the methods adopted for composting? Mention the important factors influencing the compost making.
- 83. Discuss the source, spread and control of bacillary dysentery.
- 84. List the differences between elementary and reticulate bodies.
- 85. Write the methods of laboratory diagnosis of herpes simplex virus.
- 86. Describe the development of T-cells in thymus.
- 87. Describe the production of Transgenic animals. Draw diagram.