Seat	
No.	

c) E. coil

M.Sc. (Microbiology) (Semester - I) (New) (CBCS) Examination, 2017

		Cytology and Taxonomy of Microorganisms	
Day 8	& Date	e: Tuesday, 25-04-2017 Max	. Marks: 70
Time	: 10.30	0 AM to 01.00 PM	
		N.B.: 1) Q.1, Part - I is compulsory. 2) From Part - II, attempt any 4 questions. 3) Part - I & Part - II should be written in same a	nswer book.
		PART- I	
Q.1	A)	Rewrite the sentences by choosing correct answers: 1) Organ of bacteria is useful for adhesion. A) Cellwall B) Capsule C) Flagella D) Fimb	14 riae
		Bacterial phylogeny is based on analysis. A) 16 S rRNA B) G+C content C) DNA melting D) Mor	phology
		3) L-forms of bacteria are likely resistant to antibiotics A) Streptomycin B) Penicillin C) Erythromycin D) Chloro	mycetin
		4) contains cellulose in cell well. A) Mycoplasma B) Bacteria C) Algae D) Vi	ruses
		5) Azotobacter is independent fixer. A) Nitrogen B) Sulphar C) Phosphorous D) Iron.	
		6) is connecting link between bacteria & fungi. a) Actinomycetes b) Algae c) Viruses d) Rickettsia	
		7) In salmonella typhi, typhi indicates name of a) Disease b) Symptoms c) Genus d) Species	
		8) is protein rich alga. A) Cytonema B) Coenozygote C) Spirulina D) Cyano	bacteria
		9) Motility of bacteria is character used in taxonomy. A) Cultural B)Morphological C) Biochemical D) Serological	ogical
		10) are types of archaebacteria. a) Methanogen bacteria b) Bacillus	

d) Proteus.

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		11) Modern bacteriologists classifya) Fungic) Plantae	bacteria as _ b) Algae d) Monera			
		12) Unilamellate thylakoids are founa) Euglenac) Nostoc	d in b) Yeast d) Chlamyd	lomonas		
		13) Soild wets with liquid when contains is A) 0 B) 45	act angle bet	ween soli	·	
		14) Bacteria have flagella all A)Monotrichous B) Lopotrichous			Amphitrichous	3
	_	PAR	T - II		i	
Q.2	Desc	ribe in detail cell wall of bacteria.				14
Q.3		ribe in detail general characteristics anydia.	and classificat	tion of ric	kettsia and	14
Q.4	Write	an essay on Bacterial nomenclature	and classific	ation		14
Q.5	Atter 1) 2) 3)	npt ant two of the following Cell cycle and differentiation of Baci Outline of classification of Algae. General characters and molecular a		f Mycopla	sma	14
Q.6	1) 2) 3)	npt any two of the following: General characters and classificatio Structure and reproduction of Algae Bacterial flagella.	•	ycetes.		14

Seat No.

M.Sc. (Microbiology) (Semester – I) (New) (CBCS) Examination, 2017 MICROBIAL CHEMISTRY AND ENZYMOLOGY

•	e: Tuesday, 25-04-2017 0 AM to 01.00 PM	Max. Marks: 70	
	2) Attemp 3) Figures	I, questions 1 iscompto ot any four questions f is to the right indicate for well rebilled diagrams w	rom Part - II ull marks.
Q.1 A)	Rewrite the sentences 1) is oligomeric A) Protease B) S	enzyme.	
	2) is allosteric en A) Aspartate lyase B) Aspartate hydrola C) Aspartate oxidase D) Aspartate carbom	se	
	When fats are added dispersed the proces A)Saponification B)R	s is called	d into droplets and lysis D) Emulsification
	4) Glycogen and starchA) MonosaccharideB) DisaccharideC) HomopolysucchridD) Heteropolysaccha	de	
	5) Pyrimidine and thiazi A) Vitamin K C) Vitamin A	de present in B) Vitamin l D) Vitamin l	
	Muscle contain a) Myoglobin c) Myoglobin	b) Mycolic a d) Mixoglob	
	7) Bond between hemographic a) Irreversible	globin and oxygen is _ b) Ester	

d) Covalent

c) Ether

	8) is Ketoses A) Fructose B) Glucose	C) Galactose	D) Maltose	
	9) Rickets is caused due to deficien A) Vitamin B B)Vitamin A	cy of C) Vitamin D	D) Vitamin C	
	·	b) Oligosaccharided) Polysaccharide		
	11) hetero polysaccharide fura) Hyaluronic acidc) Glycogen		ments.	
		b) Carotene d) Thiamine		
	13) Chymotrypsin, trypsin, elastase (A) B) Chimeric Monomeric	are examples of C) Oligomeric	enzymes. D) Trimetric	
	14) is immoacid. A) Glutamine B)Glutamic acid	C) Praline [D) Aspartic acid	
Q.2	PAF Give brief account of structure and r	= = ==	bohydrates.	14
Q.3	What is chemical and enuyrne kineti Holden modification		of Briggs &	14
Q.4	Discuss different methods used to ic active site.	lentify functional gr	oups in the	14
Q.5	Write short answers Any Two1) Significance of mm equation & k2) Functions of Vitamins3) Steroids and trepans.	m		14
Q.6	Write short answers Any Two1) Role of metal ions in enzyme fur2) Multienuymes.3) Transition state theory.	nction		14

Seat No.							
N	1.Sc. (.	(Semester – I	•) (CBCS) Exam IROLOGY.	ination, 2017	
Day &	Date:	Saturday, 22-04	-2017			Max. Marks: 70	
Time:	10.30 /	AM to 01.00 PM					
		2)	Part- I, Question Attempt any 4 qu Figures to the ri	uestion	•		
Q.1 <i>A</i>		ewrite the sen		RT I ing co	rrect alternative	from the	14
	1	_	h RNA and DNA oma virus		genome. b) Human cytome d) Reovirus	egalovirus	
	2) The only virus a) Bunyavirus c) Calcivirus	s which has doub s		nded RNA is b) Reovirus d) Rhabidovirus	_	
	3)lacks pi a) Slow virus c) Prions			the nucleic acids. b) Viroids d) Naked Viruses		
	4) Hubner and T a) Provirus c) Oncogene	odaro proposed		theory. b) Proto virus d) Somatic mutat	ion	
	5) Elution proces a) Rubella c) Mumps	ss is observed in	b) In	virus. fluenza icorna		
	6) Koplik's spots a) Polio c) Measeles	are found in	_ b) C	se. ancer fluenza		
	7) Potato spindle a) Virus	e tuber disease i	s cause b) Pri	· ———		
		c) Viroids		d) Ex	ons		
	8) The capsid of a) 32 c) 8	picornaviruses i		e up of caps b) 10 d) 2	omers.	

	9) Yolk sac is useful for cultivation of virus. a) TMV b) Rabies c) Herpes simplex d) Plant	
	 is most accurately describes a latent infection caused by a virus. a) The virus replicates in the host and the host cell is usually killed by the release of the progeny viruses. b) The virus genome has into the host cell, and possibly transformed the cells into tumor cells. c) The viral genome is inside the cell, but the genome is not replicating or the virus is not doing harm to the cell. d) The virus replicates in the host cell, and slowly releases virus progeny with very few of the infected cells dying. 	
	 11) is suitable for cultivation of plant viruses. a) Embryonated chicken Egg b) Tissue culture c) Lab animals d) Tumor cells 	
	 12) In lambda (λ) phage gene is responsible for the host cell lysis. a) Q b) A c) R d) b2 	
	13) Antiviral substance produced in human body is A) Antibody B) Antigen C) Interferon D) immunogenic	
	14) is a temperate phage. A) ΘΧ174 B)T4 C) T3 D) λ	
Q.2	PART II Take a detail account on structure, genomic organization, pathogenesis and control of RNA Animal viruses with suitable example.	14
Q.3	Write an essay on multiplication of Bacteriophages.	14
Q.4 A) B) C)	Write short answer on Any Two of the following: Briefly explain Ontogenesis. Briefly describe Neutralization of viruses by antibody and interferon. What is ICTV & ICNV? Describe in brief cataloging of viruses.	14
Q.5 A) B) C)	Write short answers (any two): Draw labeled diagram of the influenza virus and add a note on its pathogenesis. Briefly describe genomic replication of DNA and RNA animal viruses. What are Prions? Explain how they are differ from viroids.	14
Q.6 A) B) C)	Write short answers any two: Insect viruses. Genetic analysis of viruses by classical genetic method. ELISA.	14

Seat	
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M.Sc. (Microbiology) (Semester – I) (New) (CBCS) Examination, 2017 MICROBIOLOGICAL TECHNIQUES AND SCIENTIFIC WRITING

	ľ	MICROBIOLOGICAL TECHNIQU	JES AND SCIENTIFIC V	/RITING
Day	& C	Date: Tuesday, 25-04-2017		Max. Marks: 70
Time	e: 10	0.30 AM to 01.00 PM		
		3) Figures to the ri	ur questions from Part – II ght indicate full marks. art I and Part II are to be w	
Q.1	fo	PAR ewrite the sentences by choosing Ilowing: While preparing manuscript, Introd	correct alternative from	
		a) Present Tense c) Future Tense	b) Past Tensed) None of these	
	2)	PDF stands for a) Portable Document Format c) Portable Disc Format	b) Positional Documentd) None of these	Format
	3)	What is the first step in a scientific a) Asking questions c) Making observations	investigation? b) Drawing a conclusior d) Doing research	1
	4)	A research article can be searched a) Author name c) Title	b) DOI d) All of these	
	5)	Which of the following is a type of a) Poster c) Both a) & b)	paper presentation b) Oral d) None of these	
	6)	While preparing manuscript, Resul	t section should be presen	ited in
		a) Present Tense c) Future Tense	b) Past Tense d) None of these	
	7)	Why do scientists communicate the a) So other scientists will argue b) Because they like to write c) To make scientific models	eir results in written reports	; ?

d) So other scientists can repeat their experiments

	8) is a type of planar chromatography. a) Gas Liquid Chromatography b) Affinity Chromatography c) Thin Layer Chromatography d) HPLC	
	9) Which gel is commonly used for the separation of DNA molecules	
	a) Agar b) polyAcrylamide c) Agarose d) Ethidium bromide	
	10) Svedberg is a unit of a) Gravitational force b) Sedimentation rate c) Retention time d) Elution rate	
	11) Which of the following is used as binding agent in TLC a) Calcium Chloride b) Calcium Sulfate c) Cobalt Chloride d) Magnesium Chloride	
	12) Ion exchange chromatography is based on a) Partition b) Adsorption c) Electrostatic attraction d) Electrical mobility	
	13) Deitylaminoethyl cellulose (DEAE-Cellulose) is an example of a) Anion exchanger b) Cation Exchanger c) Both a) & b) d) None of the above	
	14) In SDS-PAGE, separation is based on a) Size b) Shape c) Molecular d) Density	
Q.2	PART II Write an essay on SDS-PAGE technique for protein separation	14
Q.3	What is enrichment? Explain various methods involved in enrichment and isolation of bacteria.	14
Q.4	Briefly describe what is Chromatography? Write in detail Gas Liquid	14
Q.5	 Write short answers (any two) a) Briefly describe 2D Electrophoresis b) Making a Oral presentation c) Discuss the roles of SDS, TEMED & Coomasiae Brilliant Blue in electrophoresis 	14
Q.6	Write short answers any two. a) Thin Layer chromatography b) Iso-electric focusing c) IMRAD system	14

Seat No.					
	M.Sc. Microbiology	(Semester – II) MICROBIAL) Examination, 2017	
Day 8	& Date: Wednesday, 1	9-04-2017		Max. Marks: 70	
Time	: 10.30 AM to 01.00 PM	M			
	2)	Part- I, Questi Attempt any 4 q Figures to the r Answer to the P answer booklet o	uestions from F ight indicate ful art I and Part II	Part II.	ne
Q.1	Choose the correct at 1) enzyme propositive developed a) Topoisomerase c) DNA polymeras	produces negative during replication	in the bracket superhelicity a	and removes the se	14
	2) Overlapping genesa) x 174c) T₄ bacteriophag		b) E. coli d) MS ₂		
	3) The law of purity of heredity. a) First b)				
	4) DNA sequences corepeats are called a) IS elements c) Composite trans		sase gene flank b) Simple tra d) Phage ele	nsposons	
	5) Synthesis of RNA particles of RNA polymeras c) DNA polymeras	se	chain elongation b) RNA prima d) RNA trans	ase	
	6) In A form of DNA, (a) 10 b)	one turn of helix one	consists of c) 9.33	_ base pairs. d) 8	
	7) has the a) Mycobacterium	smallest chromos , b) E. coli, c		d) Mycoplasma	

	 8) According to Oparin's theory source of energy for different chemical reaction leading to formation of 'primordial soup' was a) From volcanoes, electrical discharges & solar energy b) None of these c) Only heat from volcanoes d) Only electrical discharges 	
	9) Each DNA has reading frames. a) 1,	
	10) Site specific recombination requires an enzyme recombinase which identifies a unique DNA sequence of a) 2-20 bases, b) 200-2000 bases, c) 20-200 bases, d) None	
	11) In PCR DAN polymerase is used. a) Type I, b) Type II, c) Type III, d) Type IV,	
	 12) Most abundant class of organisms on earth are a) Insects b) Plants, c) Parasites of unicellular organisms (UOPs) d) Bacteria 	
	13) The replicon encoding genes essential for the cell survival is called as	
	a) Genome b) Chromosome c) Codon d) Proteome	
	14) Cairn's model of DNA replication explains mode of DNA replication in DNA.	
	a) Single stranded linear b) Double stranded linear c) Single stranded Circular d) Double stranded circular	
Q.2	PART-II What is genetic complementation? Explain in detail intergenic and intragenic complementation and add a note on cis-trans test of genetic function.	14
Q.3	What is finger printing? Explain the techniques and applications of DNA foot printing and DNA finger printing.	14
Q.4	Give the detailed account of detection, purification, amplification and rearrangement of plasmids.	14
Q.5	Write in short on any Two of the following:1) Types and properties of genetic code.2) One gene one polypeptide hypothesis.3) Discuss the rolling circle model of DNA replication.	14
Q.6	Write short notes on any TOW of the following:1) Alternative forms of DNA.2) Describe Operon model with reference to lac operon.3) Post transcriptional in Prokaryotes.	14

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	IV	MICROB	, ,	AND DIVERSI	· ·	
Day	& Da	te: Friday, 21-04-201	7	Ma	ax. Marks: 70	
Time	: 10.	30 AM to 01.00 PM				
		2) A 3) F 4) An Sai	ttempt any 4 qui igures to the rig iswer to the Par me answer book (Part-I)	II arks. to be written in	
Q.1	A)	Choose the correct 1) The bacterial pop	•		t.	14
		a) Bacteria		b) Protozoa		
		c) Actinomyce	tes	d) Fungi		
		2) is an a)Protozoa c)Fungi	example of pho	toautotroph b)Algae d) Animals		
		3) The importance ofa) CO₂ productionc) Flow of energy	n	b) Bacterial d d) Oxygen pro	_	
		4) In processimpler, inorganical a) Ammonification c) Mineralization	compound. tion	er is decomposed b) Nitrogen fix d) Nitrification	ation	
		5) <i>Photobacterium</i> s a) Xerophile		example of c) Termophi	le d) Haophile	
		beneficial o both	population.	vo different specie c) Competition		
		7) The organisms do a) Acidophilic		des are called c) Xenobiotic		
		8) In N ₂ fixation	to two moles of	ammonia.		
		a) 6	b) 8	c) 2	d) 4	
		9) Microorganisms t are known as who	_	owing in jellies, sy	rups and brines	
		a) Acidophiles	b) Halophiles	c) Osmophiles	s d)barophiles	

	10) are the free living ae nitrogen fixing bacteria.	robic non photosynthetic	
	a)Rhizobium c)Anaebena	b) Azotobacter d) Frankia	
	11) Pseudomonas pulida is useda) Methanogenesisc) Bioremediation		
	12) Sulphur is oxidized to sulphate a) Bacillus c) Nitrobacter	e or H ₂ SO ₄ by b) Thiobacillus thioxidans d) Staphylococcus	
	13) Nitrogen is required for the propertiesa) Fatty acidsc) Nucleotides	oduction of molecules. b) Phospholipids d) Cellulose	
	14) phodomicrobium is an examp	le of	
	a) Green sulphur bacteria c) Cyanobacteria	b) Purple non sulphur bacteria d) Green non sulphur bacteria	
Q.2	(PART Answer any four question from the fit What is biodeterioration? Discuss in depharmaceutical products, and rubber.	ollowing:	14
Q.3	Explain in detail microorganisms in tox on mine drainage.	ic environments and add a note	14
Q.4	Describe in detail general characteristic Bacteria and Molds.	cs and outline classification of	14
Q.5	 Write in short on any Two of the folion 1) Describe in detail general characters sulphur bacteria 2) What are basic ecological principles niches 3) Describe briefly general characteris 	ristic of purple and greens? Explain briefly ecological	14
Q.6	Write short notes on any Two of the 1) Wshat is Bioluminescence? Explair 2) Define ecosystem with examples. 3) Describe in detail role of microorga	n with example.	14

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M.Sc.(Microbiology) (Semester-II) (New) (CBCS) Examination, 2017 Microbial Physiology And Metabolism

Day & Date: Monday, 24-04-2017 Max. Marks: 70 Time: 10.30 AM to 01.00 PM Instructions: 1) From Part-I, Question-1 is compulsory 2) Attempt any four questions from Part-II 3) Figures to the right indicate full marks. 4) Draw neat and diagrams wherever required. PART - I Choose the correct answers from given alternatives. **Q.1** 14 A) 1) Photosynthetic apparatus in cyanobacteria contain three proteins collectively called..... A) Galactoproteins B) Chromoproteins C) Phycobilisomes D) Phycomycins. 2) are transported by group translocation A) Proteins B) Aminoacids C) Fats D) Sugars 3) NAD and NADH are For dehyodrogenases A) Cofactors B) Coenzymes C) Apoenzymes D) Holoenzyrnes 4) enzyme involved in conversion of nucleosides to nucleotides A) Nucleoside oxides B) Nucleoside kinas C) Nucleoside reeducates D) Nucleoside transferees 5) TCA cycle is major route of ATP generation in A) Chemolithotrophs B) Chemoheterotrophs C) Phototrophs D) Aeroheterotrophs 6) Cytochromes are conjugated proteins consisting...... as prosthetic group. A) Amino B) Acyl C) Formyl D) Heame 7) Phosphotransferase also regulate...... enzyme A) Adenylate cyclease B) Adenylate oxidase

C) Adenylate kinase

D) Adenylate reductase

	8) Ph	, ,	uble open chain B) Phytols D) Octa pyrrols	
	•		active transport has been proposed to through cell membrane. B) Lactose D) Sucrose	
	10) mi	tochondria	ities with the probable ancestor of B) Micrococcus D) Mitococcus	
	11)	Keto acids are convert	ed to leucine moles by tranamination of	
		A) Aspomate C) Glutamate	B) PyruvateD) Glutamine	
	12) an		n water, they are converted into droplets ocess is called B) Rancidity D) emulsification	
	13)	•	out microbial hormone B) Provitamin D) Phosphalipid	
	14)	Osmosis is flow of solv A) Low to low C) High to high	vent from region of to solute conc ⁿ . B) Low to high D) High to low	
Q2	Write in de	etail on concept and cor	PART - II mponents of ETC.	14
Q3		·	cycle and anapleurotic reductions.	14
Q4				14
Q5	Write in s i) ii) iii)	hort on Any TWO Oxygen toxicity Simple and facilitate Theories of ATP ge		14
Q6	Write in s i) ii) iii)	hort on Any TWO Acid permiases and Drug metabolism Amphibolic nature of	-	14

Seat	
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M.Sc. Microbiology(Semester-II)(New) (CBCS) Examination, 2017 MEDICAL MICROBIOLOGY

		MEDICAL MICROB	IOLOGY
Day &	Date:	Monday, 24-04-2017	Max. Marks: 70
Time: 1	10.30	AM to 01.00 PM	
		N.B: 1) Part I, Question 1 is 2) Attempt any four q 3) Figures to the right 4) Answer to the two p same answer book PART – I	uestions from Part- II indicates marks. parts should be written in the
Q.1 A		ewrite the following sentences I	
		nswer from the given alternative) Study of Antigen-Antibody reaction A) Mycology C) Virology	
	2)is useful for spreading of A) Hyluronidase C) Hemolysin	bacteria in body B) Lysozyme D) Cytotoxin
	3) is used as clinical specime A) Stool C) Pus	en in Urinary tract infections B) Urine D) Blood
	4) Test is used for rapid ident antibody A) ELISA C) Western blot	ification of antigen or B) RIA D) All of these
	5) In tissue culture is used fo A) EDTA C) NaCl	or cell separation. B) HCL D) NaOH
	6) Gastero intestinal diseases sprea A) Animals C) Air	ads through B) Water D) Direct contact
	7	Vaccines are used for A) Prevention C) Transmission	Of diseases. B) Curing D) Incubation
	8) Toxin acting on intestinal cells is A) Neurotoxin C) Cylotoxin	called B) Enterotoxin D) Hemolysin

	9) C	ell wall synthesis is inhibited t A) Streptomycin C) Erythromycin	by B) Chloroquine D) Penicillin	
	10)	Antibodies dissolving RBCS A) Haemolysins C) Agglutinins	are called B) Cytotoxins D) Precipitins	
	11)	is sexually transm A) Syphilis C) AIDS	nitted disease. B) Gonorrhoea D) All of these	
	12)	Animal tissue culture is used A) Bacteria C) Viruses	d for cultivation of B) Fungi D) Actinomycetes	
	13)	Mycotic infections are cause A) Bacteria C) Fungi	ed by B) Protozoa D) Parasite	
	14)	are used for passive in A) Immune sera C) Antibiotics	mmunization. B) Vaccines D) Drugs	
Q2	Describe agents.	PART in detail mechanism of action	- II of different chemotherapeutic	14
Q3	Describe	in detail factors affecting virul	ence of bacteria	14
Q4	Describe	in detail AIDS associated infe	ections.	14
Q5	a) Fur b) Epi	any two of the following ngal infections. demiological methods mal tissue culture		14
Q6	a) Spe b) Rap	any two of the following ecimen collection, transportation and methods for identification aerobic infections.	•	14

	SLR-RP - 693
Seat No.	
	c.(Microbiology) (Semester – IV) (New) (CBCS) Examination, 2017 HEALTH CARE AND DIAGNOSTIC MOCROBIOLOGY
Day 8	Date: Wednesday, 19-04-2017 Max. Marks: 70
Time:	02.30 PM to 05.00 PM
	 N.B.: 1) Part –I, Question 1 is compulsory. 2) Attempt any FOUR (4) Question from part II. 3) Figures to right indicate full marks. 4) Answer to Part-I and Part –II are to be written in same answer booklet only. Part-I
Q.1	A) Rewrite the sentences after choosing correct answer from
	the given alternatives. 1) Toxoids are produced by a) Endotoxins b) Exotoxins c) Lipopolysaccharide d) All of these 2) Which of the following antibiotic is NOT used as food preservative? a) Pimaricin b) Tycorin c) Nisin d) Beta-lactam antibiotic 3) Which of the following synthesis/function is affecting by Streptomycin and tetracycline antibiotic
	a) Protein synthesisb) DNA functionc) Cell wall synthesisd) Cell membrane function
	4) Cancers can be diagnosed by a)PCR
	 6) The ability of organisms to invade tissues of body are called a) Toxigenesis b) Colonization c) Invasiveness d) None of these

7) Extracellular bacterial proteins are responsible for ______
a) Invasion b) Colonization c) Adhesion d) None of these

	8) is the inhibitors of protein synthesis a) Polymixin b) Erythromycin c) Acridines d) Vancomycin	
	9) Beta lactams ring is present in antibiotic. a) Gentamicin b) Chloramphenicol c) Penicillin d) Tetracycline	
	 10) In ELISA test mostly is used. a) Horse raddish perodixase b) Alkaline phosphatase c) Lipase d) Urease 	
	11) Streptococci produce enzyme as invasion substance that degrade hyluronic acid of connective tissue.a) Coligenase b) Kinases c) Leucocidin d) hyluronidase	
	12) Entry of pathogen in the body is called a) Colonization b) Disease c) Toxogenesis d) infection	
	13) ability to cause disease is called a) Virulence b) Invasiveness c) Toxigenesis d) Pathogenicity	
	14) toxin is plasmid encoded. a) Tetanus b) Diphtheria c) Endotoxin d) Cholera	
Q.2	Attempt any (4) question from part II Write in brief on "Adhesion, invasion, and colonization of host tissues by bacterial pathogens"	14
Q.3	Write in short on "Mechanism of action of Trimethoprim and sulphonamide drugs"	14
Q.4	Write in details on "Ecodotoxins of gram negative bacteria".	14
Q5	Write in short on any Two of the followinga) Antifungal and antiviral drugs.b) Antibiotic assayc) Antibiotic sensitivity testing	14
Q.6	 Write short notes on any FOUR of the following a) Roll of microbiology laboratory in pharmaceutical industry. b) Use of antigen antibody reaction for diagnosis of diseases c) ELISA test used for diagnosis of diseases. d) Florescence in situ hybridization (FISH). e) Rapid methods of identification of microorganisms. f) What is Toxigenicity testing of a drug and LD50 titre? 	14

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IVI.S	5C. I	WASTE MANAGEMI	• • • • •				
Day 8	& Da	te: Friday, 21-04-2017		Max. Marks: 70			
Time:	: 02.	30 PM to 05.00 PM					
		N.B.: 1) Part- I, Quest 2) Attempt any 4 3) Figures to the 4) Answer to the F Same answer bo	questions from I right indicate fu Part I and Part II	Part II			
		Part-	I				
Q.1	A)	Rewrite the following sentence	es by selecting	correct answer 1			
		from given alternatives: 1) Melanoidin pigments are preservater.	ent in indu	ustry waste water			
		a) Paper and pulp	b) Cyanide				
		c) Textile	d) Distillery				
		2) Oil and grease present in indu removed by process.		generally			
		a) Chemical coagulationc) Chlorination	•	sludge process			
		3) EL Nion effect is observed in _					
		a) Oceans c) Ponds	b) Rives d) Wells				
		In type of lake balance between activity of produce organisms and consumer organisms is equal.					
		a) Eutrophic	b) Oligotrophi				
		c) Mesotrophic	d) All of these				
		5) Eatrhworms are generally use composting.	d for the process	s of			
		a) Green manure	b) Wormi				
		c) Vermi	d) Night Soil				
		6) The primary technique used in	gathering audit	information is			
		a) Documentation c) Public disclosure	-				
		7) ISI tolerance limit of BOD for in discharged into public swer is		effluents			
		a) 100 b) 200	c) 500	d) 1000			

		a) Activated sluc) Bioaugment	udge process ation	•		tion		
	•	The solubility of a) 10	oxygen is very h b) 20	_		emperature d) 40		
	10)	In industrial water for bulking of sa) Fungi	aste treatment ludge.	b) P	organism is rotozoa acteria	responsib	ole	
	11)	Generally pape of lignin. a) 10-20 c) 50-60	er and pulp indus	b) 20 d) 70	-40	S	%	
	12)	_	ainly responsible trogen	b) Ca		9		
	13)	Inactivated slu by a) Dyes c) Proteins	dge process, the	b) Sp	formation is argers etal ions	enhanced		
	14)		erobic biological n must be mainta	ained b) 10		s, the		
Q.2	Write an	essay on wate	PART- r tracing.	-11				14
	Discuss treatmer		operating param	eters	in industrial	l waste		14
			thod for pollution oot zone process		rol with refer	ence to		14
Q.5	1) Char 2) EL N	-		owin	g:			14
	1) ELA 2) Bioa		nny TOW of the	follo	ving:			14

8) _____ method is used for industrial waste treatment by GEM.

				SLR-RP-6	395
Seat No.					
M.S	c. M	•	`) NEW (CBCS) Examination, 20 ⁻	17
Day &	Date	e: Monday, 24	-04-2017	Max. Marks	70
Time:	02.30	O PM to 05.00	PM		
		Instruc	2) Attemp 3) Figure: 4) Answer	, Q.1 is compulsory. pt any four questions from Part-II es to the right indicates marks. rs to the Part-I & Part-II should be wr e answer book.	itten
Q.1	_	answer from	ollowing senter given alternativ	RT-I nces by selecting correct ves. ar nitrogen into ammonia is known	14
		•	 nonification trification	b) Nitrogen Fixationd) Nitrate reduction.	
		2) Mycorrhiza plant and . a) Alga c) Funç	e	b) Bacteria d) Viruses	
		3) Clay soil ha a) Stroi c) Low		water holding capacity. b) Zero d) Medium	
		a) Rhiz		le of sulfur oxidizing bacteria. b) Azotobacter d) Thiobacillus.	
		presence of	of nemoglobin	stinctly red in colour because of b) Nitrogenase d) Ammonia.	

6) In tissue culture technique......is used for surface sterilization of starting material.

b) Hcld) Hgcl2

a) NaCl

c) NaoH

7)	is used to control insecta) Pseudomonasc) Salmonella	b)		
8) In	soil Is dominant substand a) Silicon dioxide c) Sulfur	ce a	-	
9) In	plantsis acts as me a) Boron c) Sodium	b)	activator for enzymes. Zinc Chlorine	
10)	is common nitrogen fixe a) Rhizobium c) Azospirillum	b)	n paddy fields. Frankia Azotobacters	
11)	Iron sulphides and manganes to the soil. a) Black c) Yellow	b)	oxides gives colour Red Green	
12)	is the product of comp species of worms a) Green manure c) Biofertilizer	b)	iting using various Chemical fertilizer Vermicompost	
13)	C: N ratio for Micro Giologica matter (humus) is roughly a) 10:1 c) 30:10	b)	•	
14)	The organic debris layer of so a) O horizon c) B horizon	b)	s called A horizon C horizon	
VA / ' · ·	PART -	II		4.4
	an easy on Biofertilizers.			14 14
	ribe in detail Carbon Cycle.			
Desci	ribe in detail Biopesticides			14
Write i) ii) iii)	any two of the following. Plant tissue culture Nitrogen Cycle Phizosphere and phyioshe	ere		14
Write i)	any two of the following Green Manure			14

Q2

Q3

Q4

Q5

Q6

- Physicochemical and biological properties of soil. Root nedulation ii) iii)

Seat	
No.	

M.Sc Microbiology (Semester-IV) (New) (CBCS) Examination, 2017

101.0	JC 11	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	FOOD AND DAIRY N		• •	idtion, 2017
Day &	Da	te: \	Wednesday, 26-04-2017			Max. Marks: 70
Time:	02.3	30 F	PM to 05.00 PM			
			3) Figures to	ny t the he	our questions from right indicate mark two parts should be	Part II s.
Q.1	A	an	PART- ewrite the following sentence iswer from given alternatives Propionibacterium shermanii Type of cheese manufactor a) Cheddar c) Cottage	es l s is r urin b)	nember of starter u	
		2)	Discolouration of cheese is ca a) Aspergillus Niger c) Saccharomyces cerevisae		b) Penicillium rogu	
		3)	Acetaldehyde is the major flama) Cheese c) Kefir	b)	compound in Yoghurt Kumiss.	
		4)	Slime production in milk is ca a) Leuconostoc c) Lactobacilli	b)	ed by Lactic streptococc Coxiella	i
		5) a)	Non protein nitrogen constitut nitrogen of milk 5 b) 3		about% of th	
		6)	Milk serum is milk plasma mir a) Calcium c) Lactose	b)	 Casein micelles Water	
		7)	Mastitis is caused by a) Shigella dysenteriae c) Streptococcus agalactiae		b) Penicillium d) Klebsiella.	

	8) The fast precent in mastitic milk is Normal milka) Same as inb) More thanc) Increased thand) Less than	
	9) of milk are also called milk microsomes.a) Lipoprotein particlesb) Sterolsc) Calciumd) Citrate	
	10) Rancidity of cream is due to the breakdown of In cream	
	a) Proteinsb) Fatsc) Carbohydratesd) Lactose	
	11) Chemically the typical aroma of butter consist of as the	
	major factor. a) NO ₂ b) Aldehyde c) Diacetyl d) CO2	
	12) Minimum temperature of freezing of ice-cream is ⁰ F. a) 25 b) 55 c) 37 d) 21	
	13) is the acid alcohol fermented milk product.a) Yoghurt b) Bulgarian sour milkc) Srikhand d) Kefir	
	 One part of rennet liquid (about 2% protein) is used to clot about parts of milk during cheese making. a) 500 b) 5 c) 50 d) 5000 	
Q2	PART – II What is microbiological examination of milk? Explain merits and demerits of SPC.	14
Q3	What is spoilage of foods? Explain spoilage of fish and poultry.	14
Q4	What is food preservation? Explain canning of foods.	14
Q5	 Attempt any two of the following 1) What is food infection? Explain field investigations of food born outbreaks. 2) Explain manufacture of cheddar cheese. 3) Explain adulteration and contamination of foods with harmful microorganisms. 	14
Q6	Write Short notes on (any two) 1) Afla toxin 2) Production of ice-cream 3) Antibiotics in food preservation.	14

Seat	
No.	

M.Sc. Microbiology (Semester-IV) (New) (CBCS) Examination, 2017 **Pharmaceutical Microbiology**

Day & Date: Wednesday, 26-04-2017 Max. Marks: 70 Time: 02.30 PM to 05.00 PM *Instructions*: 1) Part – 1, Question 1 is compulsory. 2) Attempt any 4 questions from Part II 3) Figures to the right indicate full marks. 4) Answer to the Part I and Part II are to be written Same answer booklet only. PART - I Q.1 A Rewrite the sentence by choosing correct alternative from 14 the following 1) Macrolides have...... a) Enhanced activity at acidic pH b) Little activity against legionella c) Induce cytochrome p450 enzymes d) Half lives which increase in patients with anuria 2) is considered to be bacteriostatic antibiotic. a) Penicillin b) Chloramphenical c) Ciprofloxacin d) Cefoxitin 3) The effective drug against penicillin resistant bacteria is..... a) Chloramphenicol b) Erythromycins c) Augmentin d) None of these 4) inhibits bacterium cell wall synthesis. a) Tetracycline b) Erythromycins d) Both a & b c) Penicillin 5) During RBC count Blood must be prepared from a) EDTA blood b) Citrated blood d) Clotted blood c) Oxalated blood 6) Food poisoning is mainly caused by..... a) Corynobacterium diptheriae b) Clostridium rockfortae

> c) Clostridium tetani d) Clostridium botulinum

Ribosomal resistance occurs		th	
a) Sulphonamides	b)	Penicillin	
c) Macrolides	d)	Fluoroquinolones	
8) Generally the most effectivel is	y a	cting antimicrobial substance	
a) Sodium hypochlorite	b)	Phenols	
c) Alcohol	d)	Sodium bicarbonate	
9) can be used safely in pre	egn	ancy	
a) Gentamycin	b)	Erythromycin	
c) Doxycycline	d)	Moxifloxacin	
10) Treatment of autoimmune da) Metabolic controlb) Use of anti-inflammatory oc) Use of immunosuppressived) All of these	dru	gs	
11) is described as best soa) Acetic acid produced fromb) Ethanol from the fermentac) Penicillind) Citric acid from the partial	n th atio	e oxidation of ethanol n of glucose	
12) agar is used for scree	enin	g antibiotic producers and	
acid producer. a) Simmson's	h)	Nutrient	
c) Wilkins	,	Sabouraud's	
,			
13) Bacillus licheniformis is used		<u>. </u>	
a) Cloxacillin		Streptomycin	
c) Penicillin	a)	Bacitracin	
14) The purification and recover fermentation is called asa) Upstream processb) Downstream processc) Surface fermentationd) None of these	y o	f the production after	
PA	RT	– II	
Answer any four questions What is new vaccine technology vaccines, synthetic peptide vaccines.	/? [Discuss various DNA	14
Give a detailed account on Microf pharmaceutical products.	obi	al contamination and spoilage	14

Q2

Q3

Q4	Describe in detail sulphonamides and Quinolinone antimicrobial agents	14
Q5	 Write short answers (any two) A) Explain in detail application of microbial enzymes in pharmaceuticals B) What is Good Laboratory Practices (GLP)? Explain its importance in pharmaceutical industry. C) Describe briefly Drug delivery system in gene therapy. 	14
Q6	 Write short notes on any two a) What is Immobilization? Explain with procedures for pharmaceutical industry b) Define Biosensors, Explain its application in pharmaceutical industry. c) Describe in detail action of antibiotics on bacterial cell wall synthesis. 	14