

BRAINWARE UNIVERSITY

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125

Term End Examination 2019 - 20

Programme - Bachelors in Microbiology

Course Name - Introduction to Microbiology & Microbial Diversity

Course Code – BMBC101

(Semester - 1)

Time allotted: 2.5 Hours

Full Marks: 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group -A

(Multiple Choice Type Question)

 $20 \times 1 = 20$

- 1. Choose the correct alternative from the following (Answer any Twenty)
- (i) Which of the following pioneers of Microbiology is credited with the discovery of microorganisms using high quality magnifying lenses (early microscopes)?
 - a. Anton Van Leeuwenhoek
- b. Louis Pasteur

c. Robert Koch

- d. Semmelweis
- (ii) Joseph Lister's contribution is in introduction of
 - a. Development of Germ Theory
- b. Aseptic techniques in surgery
- c. Discarding spontaneous generation
- d. None of these
- (iii) Which among the following kingdoms were proposed by Whittaker?
 - a. Monera

b. Protista, Fungi

c. Plantae, Animalia

- d. Monera, Protista, Fungi, Plantae, Animalia
- (iv) Which of the following characters belong to kingdom Monera?
 - a. Eukaryotic

b. Heterotrophic

c. Multicellular

- d. Presence of cell wall made of cellulose
- (v) All of the following are considered microbes except
 - a. Viruses

b. Bacteria

c. Protozoa

d. Worms

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(V1)	Whic	en of the following diseases has be	en erau	icated using minumzation:			
lar) Buyus	aller a	. Chicken pox	b.	Measles			
to the same	c	Smallpox	d.	Mumps			
(vii)	Musł	rooms belong to					
	a.	Bacteria	b.	Protozoa			
	C.	Fungi	d.	Virus			
(viii)		h of the following organisms are led rocks?	known t	o grow on the surfaces of freshly			
	a.	Green algae	b.	Diatoms			
	c.	Cyanobacteria	d.	Yeast			
(ix)	Plants	Plants can't absorb molecular N2 in the atmosphere because					
	a.	** * * * * * * * * * * * * * * * * * * *		Abundance in the atmosphere inhibits absorption			
	c.	N ₂ has triple bond making it highly stable	d.	None of these			
(x)	What	is the most common way that nitr	ogen fiz	kation occurs?			
	a.	Lightning	b.	nitrogen fixing bacteria			
	c.	fossil fuel combustion	d.	forest fires			
(xi)	Legumes host nitrogen fixing bacteria, and thus are good crops to plant to replenish the soil.						
	a.	True	b .	False			
(xii)	Which	Which of the following options is a component of acid rain?					
	a.	Ammonium	b.	Denitrifying bacteria			
	c.	Nitrogen oxides	d.	Organic nitrogen			
(xiii)	Organ proces	ic nitrogen is coverted back to inc s of		nitrogen like ammonium through the			
	a.	nitrogen fixation	b.	nitrification			
	c.	decay	d.	none of the choices			
(xiv)	Cellulose is degraded to cellobiose by the enzyme						
		cellulose	_	beta-glucosidase			
	c.	hexokinase		cellulose dehydrogenase			
(xv)	Sulphates are reduced to hydrogen sulphide by						
		Desulfotomaculum sp.	•	Thiobacillus thiooxidans			
	c.	Photosynthetic sulfur bacteria		Rhodospirillum			

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(xvi)	Purple	and green sulfur bacteria use		as the electron donor to			
				2			
		S ²⁻		SO ₄ ² -			
~		H_2S		Organic acids			
(xvii)	Which among the following options is a non-			ulfur purple bacteria?			
	a.		b.	Thiobacillus			
		Chromatium	d.	Chlorobium			
(xviii)	Causa	tive agent for 'scrapie' in sheep is					
	a.	Virion	b.	Prion			
	c.	Viroid	d.	Proteins			
(xix)	A disease, muscle twitching and lack of coordination, occurs due to a prion, known as						
	a.	Marasmus	b.	Kuru disease			
	c.	Cancer	d.	Tetanus			
(xx)	Name	Name the scientist who proposed the phylogenetic tree for living things.					
	a.	Carlo Urbani	b.	Louis Pasteur			
	c.	Robert Koch	d.	Carl Woese			
(xxi)	(xxi) Which of the following organisms have thick peptidoglycan in their cell		peptidoglycan in their cell wall?				
	a.	Gram-negative bacteria	b.	Gram-positive bacteria			
	c.	Yeast	d.	Molds			
(xxii)	The common yeast Schizosaccharomyces follows which of the following asexual reproduction methods?						
	a.	Binary fission	b.	Budding			
	c.	Fragmentation	d.	Spore formation			
(xxiii)	Fusion	of nuclei in fungi is					
	a.	Karyogamy	b.	Progamy			
	c.	Microgamy	d.	Pregamy			
(xxiv)	Absorptive heterotrophic nutrition is exhibited by						
	a.	Algae	b.	Fungi			
	c.	Bryophytes	d.	Pteridophytes			
(xxv)	Which	of the following secretes toxins duri	ng s	storage conditions of crop plants?			
	a.	Aspergillus	b.	PeniciIlium			
	c.	Fusarium	d.	Both a and b			

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Group - B

	(Short Answer Type Questions) 4 x	5 = 20
Ans	wer any four from the following	
2.	Draw and describe the Cori cycle.	5
3.	Describe the different common asexual spores of fungi.	5
4.	Describe the contribution of microorganisms in alcohol fermentation.	5
5.	Mention the applications of algae in agriculture.	5
6.	Discuss the sexual reproduction process of fungi with diagram.	5
7.	What is biodeterioration? What are the various microbes involved in this process?	3+2

Group - C

	(Long Answer Type Questions)	$2 \times 10 = 20$
Answer an	ny two from the following	
8.	Describe the contribution of Louis Pasteur in the field of Microbiology	10
9.	Draw and describe the contribution of microorganisms in Nitrogen cycl	e. 10
10.	What is flagella? Describe briefly the flagellar movement in microorganisms.	3+7
11.	What are the different functional groups of soil bacteria? Cite examples mention their contribution in soil microbiology.	and 5+5