PARUL UNIVERSITY

PARUL INSTITUTE OF APPLIED SCIENCES

MID SEMESTER INTERNAL EXAMINATION, SEPTEMBER 2019

B. Sc. Semester V

Subject: MB

Paper Code:11101303Title of the paper: Environmental Microbiology

Date: 5/ 9 /2019 **Time: 90 mins.**

Maximum Marks: 40

Instructions:

1. **All questions are compulsory and options are given in first and second question only.**
2. **Numbers to the right of question indicate the marks of respective question.**

Q. 1	Attempt any one question of the following: i. Explain the process of nodule formation by the symbiotic association of Rhizobhia? ii. Explain the steps of water purification?	**(08)**
Q. 2	Attempt any three questions of the following. i. What is eutrophication and what are the consequences of it? ii. Briefly explain the Water Quality Test? iii. Name and explain some plant growth promoting substances released by microbes iv. Explain the Primary treatment of water? v. What is the Genetics of the Nif gene?	**(12)**
Q. 3	Do as directed. Attempt all five questions. i. What is an Ecosystem ii. What are Mangroves? iii. What are Photoautotrophs? iv. What are Leghaemoglobin? v. What is Potable water?	**(05)**
Q. 4	Write correct option in your answer sheet for following 15 multiple choice questions.	**(15)**

MCQ 1	A zone, where river meets the sea is known as _____.			
	(A)	Estuary	(B)	Mangrove
	(C)	Deep sea	(D)	River
MCQ 2	_____ no. of ATP is required to fix one molecule of nitrogen			
	(A)	15	(B)	16
	(C)	17	(D)	18

MCQ 3	Plant absorb Nitrogen in the form of _____			
	(A)	Nitrite	(B)	Nitrate
	(C)	Ammonium	(D)	All the above
MCQ 4	Splitting of dinitrogen molecule into free nitrogen atom in Biological nitrogen Fixation is Carried out by			
	(A)	Hydrogenase	(B)	Nitrogenase
	(C)	Dinitrogenase	(D)	Nitrate reductase
MCQ 5	Which of the following N_2 fixer is involved in Smbiotic Association with legumes forming root nodules			
	(A)	Rhizobium	(B)	Azotobacter
	(C)	Rhodospirillum	(D)	Clostridium
MCQ 6	The root nodules of legume contain a pink pigment which has high affinity for oxygen is			
	(A)	Nod haemoglobin	(B)	leghaemoglobin
	(C)	haemoglobin	(D)	Bacterial haemoglobin
MCQ 7	A large amount of soil can move with the run off called _____			
	(A)	Soil erosion	(B)	Soil conservation
	(C)	Soil pollution	(D)	Soil moving
MCQ 8	Each stage in food chain is called a _____.			
	(A)	photon level	(B)	phantom level
	(C)	trophic level	(D)	energy level
MCQ 9	In a food chain, organisms			
	(A)	feed on preceding one	(B)	provides food for succeeding organisms
	(C)	provide more energy for the next trophic level	(D)	both A and B
MCQ 10	Eutrophication is a _____.			
	(A)	good sign for ecosystem	(B)	bad sign for ecosystem
	(C)	neutral sign for ecosystem	(D)	dual-sided sign for ecosystem
MCQ 11	Submerged algae and plants die due to_____.			
	(A)	death of fish on which they feed	(B)	less water available for them
	(C)	less oxygen in water	(D)	blockage of sunlight due to profuse growth
MCQ 12	_____ Zone lies between Euphotic and Benthic zone.			
	(A)	Euphotic zone	(B)	Benthic zone
	(C)	Littoral zone	(D)	Climate zone
MCQ 13	Which of the following promotes eutrophication of lakes?			
	(A)	Magnesium	(B)	Sodium
	(C)	Calcium	(D)	Phosphorous

MCQ 14	Which element is required for Nodulation in Legumes?			
	(A)	Manganese	(B)	Iron
	(C)	Molybdenum	(D)	Bromine
MCQ 15	The conversion of nitrogen to ammonia or nitrogenous compounds is called as			
	(A)	Nitrogen assimilation	(B)	Nitrogen fixation
	(C)	Denitrification	(D)	Nitrification

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