DF-104

December-2021

B.Sc., Sem.-III

CC-202 : Microbiology
(Soil & Water Microbiology)

Time : 2 Hours] **[Max. Marks : 50**

Instruction : (1) All Question in Section – I carries equal marks.
(2) Attempt any three (3) questions out of eight (8) in Section – I.
(3) Question – 9 in Section – II is Compulsory.

Section – I

1.	(A)	Describe Positive & negative associations amongst microorganisms in soil.	7
	(B)	Write a note on Rhizosphere & its significance.	7
2.	(A)	Describe different methods of studying soil micro flora.	7
	(B)	Write a note on Mycorrhiza.	7
3.	(A)	Describe Carbon cycle.	7
	(B)	Write a note on use of Biofertilizers in increasing soil fertility.	7
4.	(A)	Explain Nitrogen fixation & denitrification.	7
	(B)	Write a note on Sulphur Cycle.	7
5.	(A)	What is quantitative analysis of water? Discuss total viable count as enumeration method.	7
	(B)	Discuss differentiation tests for Coliforms.	7
6.	(A)	Write a note on Nuisance microorganisms in water.	7
	(B)	Discuss water borne diseases.	7
7.	(A)	Discuss chemical and microbiological characteristics of domestic-waste.	7
	(B)	Describe Trickling Filters.	7
8.	(A)	Describe activated sludge process as a treatment for waste water.	7
	(B)	Draw the cross section diagram of Imhoff tank. Explain how it works.	7

Section – II

9. Give short and specific answers in 1-2 lines only : (any eight) 8

(1) Write examples of symbiotic Nitrogen fixing bacteria.

(2) What is Syntrophism ?

(3) Give one example of lignin degrading fungi.

(4) What is humus ?

(5) Full form of BOD, TOD & COD.

(6) Give examples of bacteria involved in trickling filter.

(7) What is Synergism ?

(8) Name the media which can be used for the detection of coliforms.

(9) What is P-A test ?

(10) What type of Microorganisms can create bulking sludge during activated sludge treatment ?

(11) Write full form of VAM.

(12) How many glucose molecules are there in cellobiose ?

(13) What is oxidation Pond ?

(14) Write full form of IMViC test.

(15) Give one difference between sludge and sewage.

(16) Write examples of Coliform bacteria.