

Your Roll No.

Department of Botany
School of Chemical & Life Sciences
Jamia Hamdard, New Delhi 110062

M.Sc. Botany
Semester I Examination December 2023
MBO-CC104: Microbiology and Plant Pathology

Time: 2 1/2 hrs.

Maximum Marks: 60

Note: This paper consists of sections A, B & C.

Attempt **ALL** questions (VSAQ) under Section A.

Attempt **ANY 5** questions (SAQ) out of 6 under Section B.

CLO1: recall history, characteristic features, classification and enumerate the economic importance of plant viruses, phytoplasma, bacteria and fungi (remember/analyse);

CLO 2: relate disease epidemics and epidemiology with host pathogen interaction (create);

CLO 3: recognize innate and acquired immunity and disease resistance mechanisms of plants (understand); and

CLO 4: explain diseases of plants with reference to the causal agents, symptomatology, disease cycle, transmission and management (evaluate).

BTL: 1-Remember; 2-Understand; 3-Apply; 4-Analyse; 5-Evaluate; 6-Create

VSAQ: Very Short Answer Questions

SAQ: Short Answer Questions

EAQ: Essay Answer Questions

CLO: Course Learning Outcome

BTL: Bloom's Taxonomy Level

Attempt **ANY 2** questions (EAQ) out of 3 under Section C.

Section A

Attempt **ALL** the following VSAQs.

(15 x 1 = 15 Marks)

Q.No.	Question	CLO	BTL	Marks
1.	What is the difference between archaebacteria and eubacteria in terms of cell wall composition?	1	4	1
2.	Give a SIGNIFICANT function of vesicles in VAM.	1	2	1
3.	Differentiate between a virus and viroid.	1	2	1
4.	What is the shape of a typical bacterial growth curve?	1	1	1
5.	Name the symptom caused by a plant virus wherein the infected leaf shows even distribution of alternate light and dark green patterns.	1	1	1
6.	What is an elicitor? Give an example.	2	1	1
7.	Name the causative agent of bacterial leaf blight of rice.	4	1	1
8.	Mention any one class of PR proteins.	3	1	1
9.	Name any modern technique which can be used to identify novel plant viruses.	1	3	1
10.	Define virescence.	1	1	1
11.	What is an antibiotic? Give an example of the same.	1	1	1
12.	What is the role of pili in bacteria?	1	1	1
13.	Give the level of ploidy in fungi.	1	2	1
14.	What are diazotrophs?	1	1	1
15.	Mention the class of fungi which possess dolipore septa.	1	2	1

Please turn over

Section B

Attempt **ANY 5** of the following SAQs.

(5 x 4 = **20 Marks**)

Q.No.	Question	CLO	BTL	Marks
1.	State 4 SIGNIFICANT differences between bacteria and fungi.	1	4	4
2.	Give a brief account of symptomatology of phytoplasma.	4	1	4
3.	List SIGNIFICANT differences between Gram-positive and Gram-negative bacteria.	1	4	4
4.	State Koch's postulates .	2	1	4
5.	What is the role of mycorrhiza in nature?	1	3	4
6.	How do plant + ss RNA viruses replicate?	1	3	4

Section C

Attempt **ANY 2** of the following EAQs.

(2 x 12.5 = **25 Marks**)

Q.No.	Question	CLO	BTL	Marks
1.	Give a comparative account of ultrastructure and economic importance of plant viruses and bacteria.	1	4	12.5
2.	Explain the following: a. Systemic acquired resistance b. Grouping of fungi	3 1	2 3	6.25 6.25
3.	Attempt an account of causal agent, symptomatology, disease cycle, transmission and management of ANY ONE plant disease.	4	2	12.5
