Dog No				
Reg. No.				

## G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI - 628 502.



## **UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.**

(For those admitted in June 2021 and later)

## PROGRAMME AND BRANCH: B.Sc., BOTANY

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
II	PART-III	CORE	U21BO204	MICROBIOLOGY, MYCOLOGY, LICHENOLOGY AND PLANT PATHOLOGY

Date	& Sessi	ion: 07	.05.2025/FN Time: 3 hours Maximum: 75 Marks
Course Outcome	Bloom's K-level	Q. No.	<u>SECTION – A (10 X 1 = 10 Marks)</u> Answer <u>ALL</u> Questions.
CO1	K1	1.	Which of the following methods is commonly used to isolate pure cultures of bacteria?  a) Streak plate method b) Gram staining c) PCR amplification d) Plasmid extraction
CO1	K2	2.	What is the primary purpose of Gram staining in bacterial classification?  a) To identify the presence of flagella b) To differentiate bacteria based on the thickness of their cell wall c) To determine the genetic sequence of bacteria d) To classify bacteria based on their shape
CO2	K1	3.	Which of the following is NOT a characteristic of a virus?  a) Presence of nucleic acid (DNA or RNA) b) Ability to replicate outside of a host cell c) Presence of a protein coat (capsid) d) Lack of metabolic machinery
CO2	K2	4.	What is the structure of the Tobacco Mosaic Virus (TMV)?  a) Icosahedral  b) Helical  c) Polyhedral  d) Spherical
CO3	K1	5.	Which of the following is a characteristic feature of Fungi?  a) They are autotrophic organisms. b) They lack a cell wall. c) They are non-photosynthetic and have chitin in their cell walls. d) They have chlorophyll for photosynthesis
CO3	K2	6.	Which of the following fungi is responsible for causing White Rust in Plants?  a) Mucor b) Puccinia c) Albugo d) Aspergillus
CO4	K1	7.	Which of the following types of Lichens has a leaf-like structure?  a) Crustose b) Foliose c) Fruticose d) Soredium
CO4	K2	8.	Which of the following is a key ecological role of Lichens?  a) Producing oxygen through photosynthesis b) Serving as bioindicators of air pollution c) Acting as primary producers in aquatic ecosystems d) Breaking down dead organic matter
CO5	K1	9.	Which pathogen causes Bacterial Blight in Paddy?  a) Xanthomonas oryzae b) Puccinia graminis c) Fusarium oxysporum d) Phytophthora infestans

CO5	K2	10.	Which of the following plant diseases is transmitted through insect vectors?  a) Root wilt of Coconut b) Bunchy top of Banana c) Tikka disease of Groundnut d) Citrus canker
Course Outcome	Bloom's K-level	Q. No.	SECTION - B (5 X 5 = 25 Marks) Answer ALL Questions choosing either (a) or (b)
CO1	КЗ	11a.	Discuss the historical milestones in the development of Microbiology.  (OR)
CO1	КЗ	11b.	Describe the different types of bacterial classifications based on staining, morphology, and flagellation.
CO2	КЗ	12a.	Describe the general characteristics of Viruses. (OR)
CO2	КЗ	12b.	Explain the structure and reproduction of TMV (Tobacco Mosaic Virus).
CO3	K4	13a.	Describe the general characteristics of Fungi. (OR)
CO3	K4	13b.	Discuss the structure, reproduction of Mucor.
CO4	K4	14a.	Describe the general characteristics and types of Lichens. (OR)
CO4	K4	14b.	Discuss the economic and ecological significance of Lichens.
CO5	K5	15a.	Explain the history of plant pathology and its significance in modern agriculture.  (OR)
CO5	K5	15b.	Describe the disease cycle and symptoms of the Bunchy Top of Banana.

Course Outcome	Bloom's K-level	Q. No.	SECTION - C (5 X 8 = 40 Marks)  Answer ALL Questions choosing either (a) or (b)
CO1	КЗ	16a.	Explain the structure and nutritional types of Bacteria. (OR)
CO1	КЗ	16b.	Describe the Gram staining technique. How does it help in the Classification of Bacteria?
CO2	K4	17a.	Discuss the structure and life cycle of T4 Bacteriophage. (OR)
CO2	K4	17b.	Explain the structure, characteristics, and transmission methods of Mycoplasma.
CO3	K4	18a.	Compare the structure and reproduction of <i>Puccinia</i> .  (OR)
CO3	K4	18b.	Discuss the economic importance of fungi in medicine, industry, and agriculture.
CO4	K5	19a.	Explain the structure and reproduction of Usnea. (OR)
CO4	K5	19b.	Discuss the role of lichens in the environment. How do they contribute to ecological balance?
CO5	K5	20a.	Discuss the symptoms, causes, and control measures for Bacterial Blight of Paddy.  (OR)
CO5	K5	20b.	Analyze the control methods for plant diseases, focusing on biological control and quarantine measures.