22MBU519N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Fifth Semester)

Branch – **MICROBIOLOGY**

MEDICAL MICROBIOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Cholera toxin acts by increasing intracellular a) cGMP b) cAMP c) ATP d) NADPH	K1	CO1
	2	The typical sputum in pneumonia caused by *Klebsiella pneumoniae* is a) Rice-water b) Foul-smelling pus c) Bloody and mucoid "currant jelly" d) Watery diarrhea	K2	CO1
2	3	*Cryptococcus neoformans* is best known for causing a) Meningitis in immunocompromised patients b) Skin abscess c) Pneumonia in healthy individuals d) Ringworm	K1	CO2
	4	The common causative agent of pityriasis versicolor is a) Trichophyton spp b) Epidermophyton spp c) Malassezia furfur d) Microsporum spp	K2	CO2
3	5	Poliovirus primarily replicates in a) Motor neurons of the anterior horn of the spinal cord b) Liver cells c) Epithelial cells of the skin d) Red blood cells	K1	CO2
	6	Which marker indicates active HBV infection? a) IgM anti-HAV antibody b) Anti-HCV antibody c) p24 antigen d) HBsAg	K2	CO2
4	7	A major complication caused by Ascaris infection is a) Malaria b) Intestinal obstruction c) Amoebic dysentery d) Iron-deficiency anemia	K1	CO3
	8	The infective form of *Entamoeba histolytica* is a) Trophozoite b) Pre-cyst c) Mature tetranucleate cyst d) Schizont	K2	CO3
5	9	The most commonly used site for venipuncture in adults is a) Cephalic vein b) Median cubital vein c) Femoral vein d) Jugular vein	K1	CO4
	10	The recommended preservative for stool specimen in parasitology is a) Formalin b) Acetic acid c) Alcohol d) Citrate	K2	CO4

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain how *Staphylococcus aureus* causes both pyogenic infections and toxin-related syndromes.	K2	CO1
		(OR)		
	11.b.	Relate the role of enterotoxins in the pathogenesis and clinical features of *E. coli*-induced diarrhea.		
2	12.a.	Demonstrate the laboratory methods used to diagnose cutaneous mycoses with suitable example.	K3	CO2
		(OR)		
	12.b.	Identify the clinical features of allergic bronchopulmonary aspergillosis (ABPA).		
3	13.a.	Explain how the rabies virus travels from the site of bite to the central nervous system.	K3	CO2
		(OR)		
	13.b.	Compare the pathogenicity and epidemiology of Influenza A, B and C viruses.		
4	14.a.	Identify how the migration of Ancylostoma larvae contributes to pathogenicity.	K4	CO3
		(OR)		
	14.b.	Analyze how the life cycle of *Wuchereria bancrofti* is adapted for transmission by mosquitoes.		
5	15.a.	Inspect the importance of midstream clean-catch urine collection and its role in preventing contamination during diagnosis of urinary tract infections.	K4	CO4
		(OR)		
	15.b.	Examine why immediate processing of CSF specimens is critical in suspected cases of meningitis.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions
ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze how virulence factors of *Mycobacterium tuberculosis* contribute to its survival inside the host macrophages to cause chronic infection.	K4	CO1
2	17	Compare the pulmonary involvement in histoplasmosis versus coccidioidomycosis and explain the basis for differential diagnosis.	K4	CO2
3	18	Examine the pathogenesis, clinical progression, and laboratory markers of acute HIV infection versus chronic HIV infection.	K4	CO2
4	19	Discuss the pathogenicity and clinical manifestations of *P. vivax* malaria and the laboratory techniques used for diagnosis.	K4	CO3
5	20	Inspect throat swab and nasopharyngeal swab collection methods in the diagnosis of respiratory viral infections, including COVID-19.	K4	CO4

Z-Z-Z END