

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)  
BSc DEGREE EXAMINATION DECEMBER 2023  
(First Semester)

Branch - MICROBIOLOGY

FUNDAMENTALS OF 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	Hanging drop method for motility study was first introduced by a. Robert Koch                      c. Louis Pasteur b. Jenner                                d. Leeuwenhock	K1	CO1
	2	Relate the term associated with light gathering capacity of microscope a. Numerical aperture    c. Angular aperture b. Both a and b            d. None of these	K2	CO1
2	3	Endotoxin produced by gramnegative bacteria is present in a. Peptidoglycan            c. Lipopolysaccharide b. Theichoic acid            d. Inner membrane	K1	CO2
	4	Infer which of the following inclusion bodies are diagnostic of rabies a. Elementary bodies    c. Pascheur bodies b. Negri bodies            d. Guarnieri bodies	K2	CO2
3	5	One of the following is present in blue green algae a. Starch                                c. Cyanophacean granule b. Polysaccharaide        d. Floridian starch	K1	CO3
	6	Deduce the anisogamous reproduction in algae from the options given below. a. Eudorina                      c. Volvox b. Fucus                                d. Spirogyra	K2	CO3
4	7	<i>Rhizopus stolonifer</i> belongs to which class? a. Acrasiomycetes            c. Zygomycetes b. Ascomycetes                d. Deuteromycetes	K1	CO4
	8	Show the division of fungi that lacks flagella from the options given below. a. Mastigomycota            c. Amastigomycota b. Gymnomycota            d. Basidiomycetes	K2	CO4
5	9	In Amoeba, excretion occurs through, a. Contractile vacuole    c. Parapodia b. Plasmalemma            d. Nucleus	K1	CO5
	10	Infer the structure in <i>Paramecium</i> through which food is ingested through a. Cytoproct                      c. Cytopyge b. Cytosome                      d. Cytopharynx	K2	CO5

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.	Demonstrate the history of microbiology its scope in day to day life.	K2	CO1
	(OR)			
	11.b.	Interpret the spontaneous generation theory to prove life arose from nonliving matter.	K2	CO1
2	12.a.	Identify the various organelles of a bacterial cell and discuss their roles and responsibilities in preserving its integrity by a suitable image.	K3	CO2
	(OR)			
	12.b.	Apply your knowledge on bacterial cell structure to comment on protective mechanism of capsules, slime layers and S-layers.	K3	CO2
3	13.a.	Identify the sexual and asexual reproduction in Algae with a neat sketch.	K3	CO3
	(OR)			
	13.b.	Experiment with different commercial product derived from algae to prove its importance.	K3	CO3
4	14.a.	Analyze the distribution and abundance of fungi in the soil.	K4	CO4
	(OR)			
	14.b.	Infer the reproduction in fungi with the life cycle of <i>Rhizopus stolonifera</i> .	K4	CO4
5	15.a.	Make use of your knowledge on the morphology of amoeba to comment on their importance in disease diagnosis.	K4	CO5
	(OR)			
	15.b.	Compare and contrast the modes of nutrition in protozoa.	K4	CO5

**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	Elucidate the contributions of Robert Koch, Paul Ehrlich and Alexander Flemming in the field of microbiology.	K4	CO1
2	17	Analyze the mechanism behind H <sup>+</sup> translocation in motile bacteria with suitable diagram.	K4	CO2
3	18	Classify the algal divisions and their characteristics.	K4	CO3
4	19	Discover the economic and agricultural importance of fungi with suitable examples.	K4	CO4
5	20	Inspect the types of reproductions in protozoa with suitable examples.	K4	CO5