Name: **Enrolment No:**	

UPES

End Semester Examination December 2024

Course: Pharmaceutical Microbiology **Semester: III**
Program: B. Pharm **Duration: 03 Hours**
Course Code: BP303T **Max. Marks: 75**
Instructions: No additional material like graph paper, log table, *etc* is allowed for this examination.

SECTION A

(20 Q x 1 M = 20 Marks)

S. No.	Attempt all questions from section A.	Marks	COs
Q 1	In Gram's staining, counter staining agent used is a) Crystal violet b) Methylene blue c) Safranin d) none of the above	1	CO1
Q 2	Define bacteriophages.	1	CO1
Q 3	State the use of oil immersion objective in compound microscope.	1	CO1
Q 4	Classify microorganisms as per Leeuwenhoek's classification system.	1	CO1
Q 5	Gram positive bacterial cell wall contains _____ acid. a) Citric acid b) Teichoic acid c) Lactic acid d) none of the above	1	CO1
Q 6	Cell theory was given by: a) Theodor Schwann b) Matthias Jakob Schleiden c) Both a and b d) None of the above	1	CO1
Q 7	The typical autoclaving conditions for sterilization are _____°C and _____psi.	1	CO1
Q 8	Enlist culture media used in sterility testing.	1	CO1
Q 9	The color of negative positive appears as _____in Gram's staining.	1	CO1
Q 10	In acid fast staining, heat must be applied to force the dye through the cell wall into cytoplasm. a) True d) False	1	CO1
Q 11	Enlist the phases in a bacterial growth curve.	1	CO1
Q 12	Write any one technique used to isolate pure culture.	1	CO1
Q 13	IMViC biochemical tests are carried out to identify members of _____ family.	1	CO1
Q 14	Differentiate antiseptics and disinfectants.	1	CO1
Q 15	What is the function of Pili / Fimbriae in bacteria.	1	CO2

Q 16	State any two applications of phase-contrast microscope.	**1**	**CO4**
Q 17	A use-dilution test is commonly used to determine a chemical's antiseptic /disinfection effectiveness on an inanimate surface. a) True b) False	**1**	**CO1**
Q 18	Write the formula used to calculate phenol coefficient.	**1**	**CO1**
Q 19	Microbiological assay of antibiotics requires a total of _____ petri plates to accommodate _____cylinders or cavities.	**1**	**CO1**
Q 20	As the temperature increases arithmetically, the activity of the given concentration of bactericide against standard inoculum of bacteria increases geometrically: a) True b) False	**1**	**CO1**
	SECTION B (20 Marks) **(2 Q x 10 M = 20 Marks)**		
	Attempt any two questions from section B.	**Marks**	
Q 1	Explain principal differences between prokaryotic and eukaryotic cells with the help of a well labelled diagram.	**10**	**CO2**
Q 2	**a)** Explain the principle of bacterial staining. **b)** Describe the procedure used for the bacterial identification by Gram's staining **c)** Mention the use Gram's Iodine.	**2+7+1**	**CO4**
Q 3	Explain various factors affecting properties of disinfection properties of disinfectants.	**10**	**CO5**
	SECTION-C (35 Marks) **(7 Q x 5 M = 35 Marks)**		
	Attempt any seven questions from section C.	**Marks**	
Q 1	Explain the protocol followed for indole production test. How are the results interpreted in indole production test?	**4+1**	**CO1**
Q 2	Differentiate between the Gram positive and Gram-negative cell wall.	**5**	**CO1**
Q 3	Explain Francesco Redi's experiments against spontaneous generation theory.	**5**	**CO3**
Q 4	Write a note on streak plate, spread plate, and pour plate techniques used to isolate pure cultures.	**5**	**CO3**
Q 5	Explain D-value and Z-value.	**2.5+2.5**	**CO4**
Q 6	Write a note on membrane filtration method.	**5**	**CO4**
Q 7	Describe Rideal Walker test to evaluate the effectiveness of disinfectants.	**5**	**CO4**
Q 8	Briefly explain the applications of cell cultures in pharmaceutical research.	**5**	**CO5**
Q 9	Describe turbidimetric assay (tube assay) method for microbiological assay of antibiotics.	**5**	**CO5**