



**School:** School of Science  
**Program/s:** Biomedical Science  
**Year:** 1st **Semester:** I  
**Examination:** End Semester Examination  
**Examination year:** December - 2022

**Course Code:** BM102 **Course Name:** General Microbiology & Microbial Physiology  
**Date:** 06/12/2022 **Total Marks:** 40  
**Time:** 8:30 am to 10:30am **Total Pages:** 2

**Instructions:**

- Write each answer on a new page
- Draw neat and well-labelled diagrams wherever required

Q. No.	Details	Marks	COs*	BTL#
Q1	<p><b>Q1: Multiple Choice Questions</b></p> <p><b>1. Who was credited with discrediting the concept of spontaneous generation?</b></p> <p>a. Louis Pasteur b. Lazzaro Spallanzani c. JohnTyndall d. others</p> <p><b>2. Who developed the criteria for establishing a cause with a particular infectious disease?</b></p> <p>a. Robert Koch b. Louis Pasteur c. Lazzaro Spallanzani d. JohnTyndall</p> <p><b>3. Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?</b></p> <p>a. Condenser lens b. Magnifying lens c. Objective lens d. Eyepiece lens</p> <p><b>4. Which of the following is used in electron microscope?</b></p> <p>a. electron beams and magnetic fields b. light waves c. magnetic fields d. electron beams</p> <p><b>5. Vaccination was invented by _____</b></p> <p>a. Watson b. Jenner</p>	(10 M)	CO1 CO2 CO3 CO4	BTL1,2,3

c. Crick

d. Pasteur

6. **Which of the following are true for cytoplasmic membrane?**

a. site of generation of protonmotive force

b. hydrophilic barrier

c. hydrophobic barrier

d. hydrophobic barrier and site of generation of protonmotive force

7. **When rod shaped bacteria appears in pairs, it is known as?**

a. Diplobacilli

b. Streptobacilli

c. Diplococci

d. Staphylococci

8. **Bacteria with less than a complete twist or comma shaped is known as?**

a. spirilla

b. helical

c. vibrioid

d. spirochetes

9. **Bacteria having clusters of flagella at both poles of cells are known as?**

a. Lophotrichous

b. Peritrichous

c. Amphitrichous

d. Monotrichous

10. **When a bacteria swim towards a chemical, it is termed as \_\_\_\_\_**

a. positive chemotaxis

b. phototaxis

c. negative chemotaxis

d. magnetotaxis

1. .

**Answer the following questions in brief: (Any five) :**

1. What is the endosymbiotic theory? What evidences favor this theory?

2. What characteristic shapes can bacteria assume? Describe the ways in which bacteria clusters together?

3. If you prepared a sample of a specimen for light microscopy, stained it with the Gram stain, and failed to see anything when you looked through your light microscope, list the things that you may have done incorrectly.

4. How do plasmids differ from chromosomes? Can plasmid integrate with the chromosome?

5. State the functions of pilli, fimbria and flagella.

6. What are acidophiles and alkalophiles? Give examples.

Q2

(10  
M)

CO1

CO2

CO3

CO4

CO5

BTL1,2  
,3,4,5

Q3	<p><b>Answer the following in detail: (Any Four):</b></p> <ol style="list-style-type: none"> <li>1. Compare and contrast the cell wall structure of gram negative and gram positive bacterial cell wall organization.</li> <li>2. Describe how environmental conditions affect bacterial growth.</li> <li>3. What are the major nutrients required by bacteria?</li> <li>4. Classify the bacteria based on oxygen utilization.</li> <li>5. Describe structure of bacterial cell in detail with all the components and their respective function.</li> </ol>	(20 M)	CO4 CO5 CO6	BTL4.5 .6
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