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RAN-2103000204020115

B.Sc. (Sem. 4) Examination April - 2025

Bioscience (Microbiology)

BS - 401 - Microbial Cytology & Physiology

Time: 2 Hours]

[Total Marks: 50

સૂચના : / Instructions

(૧)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.

Fill up strictly the details of signs on your answer book

Name of the Examination:

B.Sc. (Sem. 4)

Name of the Subject :

Bioscience (Microbiology) BS - 401 - Microbial Cytology & Physiology

Subject Code No.: **2103000204020115**

Seat No.:

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Student's Signature

- (2) Draw neat and labeled diagrams wherever necessary.
- (3) Figures to the right indicate full marks of the question.

Q.1. Multiple choice question. (MCQ)

08

1. NAM means:
 - a. N-acetyl murein
 - b. N-acetyl muramic acid
 - c. N-acetoyle muramic acid
 - d. None
2. One of the following is the Gram Positive bacterium.
 - a. Escherichia coli
 - b. Salmonella typhi
 - c. Bacillus subtilis
 - d. All
3. The bacterium Staphylococcus aureus is which type of bacteria?
 - a. Psychrophile
 - b. Mesophile
 - c. Thermophile
 - d. Mesophile and psychrophile
4. The optimum pH for the growth of most bacteria lies between _____
 - a. 5-9
 - b. 6.5-7.5
 - c. 2-3.5
 - d. 9-9.5

RAN-2103000204020115]

[1]

[P.T.O.]

P0701

5. Which of the following is used as a solidifying agent for media?
 - a. Beef extract
 - b. Peptone
 - c. Agar
 - b. Yeast extract
6. Isolation of pure culture refers to _____
 - a. Introduction of inoculum
 - b. Purification of culture
 - c. Separation of a single colony
 - d. To grow microorganisms on a surface
7. Macroscopically visible growth or cluster of microorganisms on a solid medium is known as _____ .
 - a. plaque
 - b. clump
 - c. aggregate
 - d. colony
8. _____ are media that distinguish among different groups of microbes.
 - a. Enriched media
 - b. Selective media
 - c. Supportive media
 - d. Differential media

Q.2. [A] Answer as directed: 04

1. Explain: Spread plate method.
2. Enlist the cytoplasmic inclusion.
3. Name two spore forming bacteria.
4. Define: Protoplast, L forms.

[B] Write short notes on: (any two) 10

1. Peptidoglycan.
2. Tactic movement.
3. Biochemical medium.

Q.3. Write an essay on - Bacterial cell wall. 14

OR

Q.3. Answer the question 14

1. Describe in brief nutritional types of bacteria.
2. Write a note on bacteria endospore.

Q.4. Answer any two of the following questions. 14

1. Enlist the methods for measurement of growth. Describe in brief SPC.
2. Explain the various phases of bacterial growth curve.
3. Describe in detail membrane filter technique.