


RAN-2503001304066001

B.Sc. Biotechnology (NEP) (Sem. IV) Examination April - 2026
SEC - Isolation & Enumeration of Microbes

Time: 30 Min.]
[Total Marks: 13

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book. (2) Figures to the right indicate full marks. (3) Draw neat and labelled diagrams wherever necessary.	Seat No.: <table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> Student's Signature						

Q. 1 Choose the correct option. (06)

1. What is the purpose of serial dilution in the standard plate count method?

a) To kill unwanted bacteria	b) To obtain countable colonies
c) To grow anaerobic bacteria	d) To increase bacterial growth rate
2. Which type of media suppresses the growth of unwanted bacteria while allowing target bacteria to grow?

a) Selective media	b) Enriched media
c) Differential media	d) Defined media
3. Which of the following is NOT an anaerobic cultivation method?

a) GasPak jar method	b) Thioglycolate broth method
c) Candle jar method	d) Streak plate method
4. Which of the following media is an example of defined media?

a) MacConkey agar	b) Eosin Methylene Blue (EMB) agar
c) Glucose minimal salt agar	d) Blood agar
5. Which of the following dye/s are present in MacConkey agar media?

a) Methylene blue	b) Safranin
c) Neutral Red	d) All
6. How many bacterial cells are usually required to be seen in microscopic field using direct cell counting?

a) 5 million/mL.	b) 1 million/mL.
c) 20 million/mL.	d) 10 million/mL.

Q. 2 Answer in one word (Any 7) (07)

- 1) Which culture media contains unknown chemical composition?
- 2) Which method is used for counting only viable bacteria?

- 3) Which media is used for growing fastidious organisms such as *Neisseria* and *Haemophilus*?
 - 4) What are capnophiles?
 - 5) Name any one aerobic indicator dye used for cultivation of anaerobes.
 - 6) Mention how chocolate agar and blood agar differ from each other.
 - 7) What unit is used to express bacterial count in the standard plate count method?
 - 8) Name any one electronic instrument used for cell counting.
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