

Enrollment No: \_\_\_\_\_

Exam Seat No: \_\_\_\_\_

**C. U. SHAH UNIVERSITY**  
**Winter Examination-2021**

**Subject Name : Microbial Physiology and Metabolism**

**Subject Code : 4SC03MPM1**

**Branch: B.Sc. (Microbiology)**

**Semester: 3**

**Date: 17/12/2021**

**Time: 02:30 To 05:30**

**Marks: 70**

**Instructions:**

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

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**Q-1 Attempt the following questions: (14)**

- |                                       |   |
|---------------------------------------|---|
| a) Define: Growth                     | 1 |
| b) What is facilitated diffusion?     | 1 |
| c) Write full form of TCA cycle       | 1 |
| d) Define: fermentation               | 1 |
| e) Give the meaning of uniport        | 1 |
| f) What is Autotroph?                 | 1 |
| g) Write full form of ETC             | 1 |
| h) What is Anaerobic respiration?     | 1 |
| i) Define: methanogenesis             | 1 |
| j) What is photosynthesis?            | 1 |
| k) Define: denitrification            | 1 |
| l) What is Metabolism?                | 1 |
| m) What is halophile?                 | 1 |
| n) Write the function of mitochondria | 1 |

**Attempt any four questions from Q-2 to Q-8**

**Q-2 Attempt all questions (14)**

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|---|----|
| a) Discuss: Assimilatory nitrate reduction    | 07 |
| b) Describe: photosynthesis in green bacteria | 07 |

**Q-3 Attempt all questions (14)**

- |   |    |
|---|----|
| a) Prepare brief note on Alcohol fermentation | 07 |
| b) Discuss: Electron transport chain          | 07 |

**Q-4 Attempt all questions (14)**

- |  |    |
|--|----|
| a) Describe: facilitated diffusion       | 07 |
| b) Prepare a short note on extremophiles | 07 |



- Q-5**      **Attempt all questions**      **(14)**
- a) Discuss: diauxic growth curve      **07**
  - b) Brief note on Pentose phosphate pathway      **07**
- Q-6**      **(14)**
- Prepare in detailed note on: Primary and secondary active transport
- Q-7**      **Attempt all questions**      **(14)**
- a) Write a short note on: Lactate fermentation      **07**
  - b) Discuss: Ammonia assimilation      **07**
- Q-8**      **(14)**
- Prepare a note on : anoxygenic vs. oxygenic photosynthesis

