Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Microbial Physiology and Development

Subject Code: 5SC02MPD1 **Branch: M.Sc.(Microbiology)**

Semester: 2 **Date: 04/05/2017** **Time : 02:00 To 05:00** **Marks : 70**

Instructions:

(1) Use of Programmable calculator and 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.

SECTION – I

Q-1 **Attempt the Following questions** **(07)**

a.	Define facilitates metabolite transport in bacteria	**1**
b.	Name any two pigments involved in energy absorption.	**1**
c.	What is the primary function of Embden-Mayer Hoff (EM) pathway?	**1**
d.	What is the difference between respiration and metabolism?	**1**
e.	Define generation time.	**1**
f.	What is the difference between diffusion and osmosis?	**1**
g.	What is the role of phosphoenolpyruvate?	**1**

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

a)	Write a note on EM Pathway.	**7**
b)	Explain importance of non-essential nutrients in grow of microorganisms.	**7**

OR

Q-2 **(14)**

Explain in details about all necessary requirements of growth of microorganisms.

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

a)	Write a short note on classification if microorganisms based on nutrient requirements.	**7**
b)	Explain the process of vesicle mediated transport of nutrients.	**7**

OR

Q-3	**a)**	Write a note on primary and secondary transport.	**7**
	b)	Write a short note on photosynthetic and accessory pigments.	**7**

SECTION – II

Q-4 **Attempt the Following questions** **(07)**

a.	Define dormancy.	**1**
b.	Define heterolactic fermentation process.	**1**
c.	Give example of any two polyamines.	**1**
d.	Differentiate between hyphae and mycelium.	**1**
e.	How many APTs are required to active nitrogenase complex to perform activity?	**1**
f.	Which process converts CO_2 and water into carbon compounds?	**1**
g.	Define resting phase in cell cycle.	**1**

Q-5 **Attempt all questions** **(14)**

a)	Write differences between oxygenic and anoxygenic photosynthesis.	**7**
b)	Write a note on reverse TCA cycle.	**7**

OR

Q-5

Write a detailed note on nitrogenase enzyme and its molecular biology. And discuss role of various components in nitrogen cycle. **14**

Q-6 **Attempt all questions** **(14)**

a)	Explain process of substrate level phosphorylation.	**7**
b)	Write a note on pathway that generates glucose from non-carbohydrate molecules.	**7**

OR

Q-6 **Attempt all Questions**

a)	Explain cell division cycle in bacteria.	**7**
b)	Define fermentation and explain homo and heterolactic fermentation.	**7**