Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Agricultural Microbiology

Subject Code: 4SC06AGM1 **Branch: B.Sc. (Microbiology)**

Semester: 6 **Date: 21/04/2017** **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.

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

a)	Define process of biological nitrogen fixation in one sentence.	1
b)	Which enzyme is involved in conversion of N_2 to NH_4 in nature?	1
c)	Give any two examples of free living photoautotrophs.	1
d)	Is *Klebsiella* a nitrogen fixing organism?	1
e)	Give example of any denitrifying bacteria.	1
f)	Define process of vermicomposting in one sentence.	1
g)	Define host resistance in biological control of plant disease.	1
h)	Define antagonist.	1
i)	Give name of plant in which rust infection is found.	1
j)	What is the % range of lactose concentration found in cow milk?	1
k)	In leguminous plants root nodules are considered as root infection. True or False?	1
l)	Define systemic infections in plant.	1
m)	What is the difference between terms lesion and infection?	1
n)	What is gummosis?	1

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

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

a)	Write a note on process of nitrification in association with soil and bacteria.	**7**
b)	Write a note on symbiotic nitrogen fixation by rhizobium.	**7**

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

a)	Write a note on Methanogens.	**7**
b)	Write a note on phosphate solubilization by soil bacteria.	**7**

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

a)	Explain importance of denitrification with reference to conversion of Nitrate to N_2.	**7**
b)	Write a note on plant disease symptoms.	**7**

Q-5		**Attempt all questions**	**(14)**
	a)	Write a note on biological control of plant diseases.	**7**
	b)	Write a note on chemical control of plant diseases.	**7**
Q-6		**Attempt all questions**	**(14)**
		Write a note on biological nitrogen fixation and discuss each aspect in detail.	**14**
Q-7		**Attempt all questions**	**(14)**
	a)	Write a note on biodegradation of pesticides.	**7**
	b)	What is the composition of milk in adult lactating cow? Discuss each component with its importance and normal micro flora of milk.	**7**
Q-8		**Attempt all questions**	**(14)**
	a)	How to use Azospirillium in the field of Rice to increase the yield?	**7**
	b)	Give overview on a generalized process for the mass production of biofertilizers.	**7**