	Utech
Name:	
Roll No.:	The Same of Exercising and Exercise
Invigilator's Signature :	

CS/B.TECH(FT)/SEM-6/FT-602/2012 2012

ADVANCED FOOD MICROBIOLOGY AND BIOTECHNOLOGY

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following:

 $10 \times 1 = 10$

- i) Cider vinegar is produced from
 - a) malt

b) alcohol

c) apple

- d) none of these.
- ii) The disadvantage of algae for consumption is
 - a) its large size
 - b) its undigestible cell wall
 - c) its high content of nucleic acid
 - d) none of these.

6125 [Turn over

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iii)	Water activity is an					
	a)	intrinsic factor	b)	extrinsic factor		
	c)	implicit factor	d)	none of these.		
iv)	Example of an anaerobic spore former is					
	a)	Bacillus subtilis	b)	Campylobacter jejuni		
	c)	Escherichia coli	d)	none of these.		
v)	Rapid method for the detection of specific organisms are					
	a)	Dye reduction test	b)	MPN counts		
	c)	both of these	d)	none of these.		
vi)	Acridine orange binds with					
	a)	DNA	b)	RNA		
	c)	both of these	d)	none of these.		
vii)	Example of a bacteria which is not of coliform group is					
	a)	Salmonella	b)	Enterobactor		
	c)	Aeromonas	d)	none of these.		
viii)	Patulin is a toxin produced by					
	a)	Clostridium	b)	Staphylococcus		
	c)	both of these	d)	none of these.		
ix)	Citrinin is a toxin obtained from					
	a)	Aspergillus	b)	Penicillium		
	c)	Both of these	d)	none of these.		
x)	E. coli is used as an index or indicator of fecal pollution					
	since					
	a)	other members of Coliform to produce disease				
	b)					
	c)	c) Both of the above				
	d)	None of these.				



- xi) Prokaryotic cell is characterized by
 - a) 23S rRNA
- b) 16S rRNA
- c) 16S DNA
- d) both (a) & (b)

- xii) TMAO is
 - a) electron donor
- b) electron acceptor
- c) proton donor
- d) proton acceptor.
- xiii) BT cotton comes from
 - a) Biotechnology
 - b) Bacillus stereothermophilus
 - c) Bacillus thurangiensis
 - d) Bacillus thermobutyricum.
- xiv) Momoni is the
 - a) mlk based product
- b) meat based product
- c) soya based product
- d) fish based product.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

- $3 \times 5 = 15$
- 2. Justify the statement "Yeast are both useful as well as problem organisms".
- 3. Describe the effect of OR potential in regard to microbial activity?
- 4. Classify the bacteria on the basis of biochemical proprieties.
- 5. What are the various factors effecting the kind and number of microorganisms in food?
- 6. What are the advantages and disadvantages of GM food?
- 7. How can Tempeh be prepared? Write the differences between miso and Soya sauces. 3 + 2
- 8. What are the spoiling agents of beer? Explain their mechanism of spoilage.

CS/B.TECH(FT)/SEM-6/FT-602/2012

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

- 9. Briefly describe the bacterial transformation process. Justify that DNA replication process is semi-conservative. Give example of two physical and chemical mutagens and their mode of action. 6 + 4 + 5
- 10. How can you preserve consumable mushroom? Give two processes. How can you produce SCP as a byproduct of an industrial process?
- 11. What is role of water activity in microbial growth? Anaerobic bacteria cannot tolerate presence of oxygen. Why? Do you think fermented foods are always safe and nutritious?

5 + 4 + 6

12. Prepare two different fermented products from milk.

Mention the name of the organisms involved in the processes. Describe Orlean's process for vinegar production.

8 + 7

- 13. Briefly describe the double stranded DNA structure. Illustrate the DNA replication process. Give advantages and disadvantages of genetically modified food. 5 + 5 + 5
- 14. What do you mean by DFT method? What is the basic principle of this method? Briefly describe the ELISA method. Write the physiological and biochemical characteristics of *Clostridium botulinum*. Give the isolation and identification of Salmonella in food sample. 3 + 5 + 2 + 5

6125 4