



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech/(FT-NEW)/SEM-6/FT-604/2013

2013

**MICROBIAL TECHNOLOGY AND
FOOD 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 × 1 = 10

- i) Host microorganism for cloning is
 - a) *E.coli*
 - b) *Lactobacillus*
 - c) *Bacillus thurangensis*
 - d) *Streptococcus*.
- ii) Disadvantages of single cell protein is
 - a) contain higher amount of nucleic acids
 - b) cause gout
 - c) contains heavy metals
 - d) all of these.



- iii) *Sacharomyces cerevisea* is responsible for production of
- a) Yeast cell
 - b) Alcohol
 - c) Glycerol
 - d) all of these.
- iv) Penicillin
- a) disrupts the cell wall
 - b) inhibits transcription process
 - c) inhibits the cell wall synthesis
 - d) inhibits metabolic pathway.
- v) Vitamin B_{12} contains
- a) Zn
 - b) Cd
 - c) Co
 - d) Mn.
- vi) Example of consumable mushroom is
- a) Agarious bisporus
 - b) Amanita muscaria
 - c) Ramaria gelatinosa
 - d) Tricholoma pardinum.
- vii) The disadvantage of bacteria as SCP is
- a) its large size
 - b) its undigestable cell wall
 - c) its high content of nucleic acid
 - d) none of these.
- viii) In GM foods
- a) genotype is changed
 - b) phenol type is changed
 - c) both are changed
 - d) none of these.



- ix) In liquid cored candies the used enzyme is
- a) Pectinase b) Protease
- c) Invertase d) none of these.
- x) The transfer of genetic information by direct cell to cell contact is known as bacterial
- a) transduction b) transcription
- c) transformation d) none of these.
- xi) *S.carlbergensis* has the limitation to be used in bakery as it cannot tolerate
- a) high temperature b) high pH
- c) low pH d) none of these.
- xii) Oyster mushroom is nothing but
- a) aspergillus b) penicillium
- c) saccharomyces d) none of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Write the advantages and disadvantages of genetically modified food.
3. Briefly describe the production process of high fructose corn syrup and give its industrial application.
4. Briefly describe mushroom preservation methods.
5. Discuss briefly about the glycerol production process.

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6. What are the ingredients used in brewing ? Discuss their role in the process.
7. Write short notes on the following enumerating techniques :
 - a) Electrical method
 - b) Immunological methods.

GROUP – C

(Long Answer Type Questions)

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

8. Describe Baker's yeast fermentation highlighting the nutritional sources, medium composition, pH and temperature.
9. a) What are the characteristics of penicillin fermentation ? What are the different stages of penicillin fermentation ? What do you mean by precursors and which types of precursors are used for penicillin fermentation ? $3 + 3 + 3$
b) Where is streptomycin used ? What are the limitations of streptomycin ? How one can overcome these problems ? $2 + 2 + 2$
10. What do you mean by RDT ? What is plasmid ? Write short note on transduction. $3 + 3 + 9$
11. Describe Watson-Crick Model of DNA. What do you mean by mutation ? Briefly write about different types of mutation. $10 + 1 + 4$
12. What do you mean by mutagen ? Name some mutagens. Describe briefly about bacterial transformation. $1 + 3 + 11$

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