



Name :

Roll No. :

Invigilator's Signature :

CS/B. Tech (BT)/SEM-7/BT-702/2011-12

2011

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 of the following : $10 \times 1 = 10$

- i) β -amylase cleaves
 - a) α , 1, 4 glucosidic linkage
 - b) β , 1, 6 glucosidic linkage
 - c) β , 1, 4 glucosidic linkage
 - d) none of these.
- ii) Putrefaction results due to
 - a) aerobic decomposition of milk
 - b) anaerobic decomposition of vegetables
 - c) aerobic decomposition of meat
 - d) anaerobic decomposition of meat.



- iii) The form of aflatoxin secreted in milk is
 - a) B1
 - b) M1
 - c) B2
 - d) none of these.
- iv) Vinegar is a/an
 - a) Nutrient
 - b) Condiment
 - c) Adjunct
 - d) Supplement.
- v) Pectin of fruit juice is hydrolysed by
 - a) Cellulase
 - b) Arabinoxylanase
 - c) Polygalacturanase
 - d) β -lactamase.
- vi) Natural colour of vegetables can be preserved during food processing by
 - a) nitrate solution
 - b) brine
 - c) sulphuration
 - d) sodium monoglutamate.
- vii) Botulism is a result of
 - a) food spoilage
 - b) food infection
 - c) food preservation
 - d) food poisoning.
- viii) Swiss cheese is
 - a) red cheese
 - b) black cheese
 - c) blue cheese
 - d) none of these.
- ix) Golden rice replenishes the deficiency of
 - a) Vitamin A
 - b) Vitamin D
 - c) Vitamin B₁
 - d) Vitamin B₅.
- x) Genetically modified food can be analyzed by
 - a) PCR
 - b) Potentiometric technique
 - c) Thermal sensors
 - d) Titration.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.

3 × 5 = 15

2. What are the advantages of production of single cell protein ?
Write some commonly used microorganisms and corresponding substrates for the production of SCP. 2 + 3
3. Explain the importance of salting in Sauerkraut fermentation.
4. What is HACCP ? Briefly describe its essential principles.
2 + 3
5. Name an enzyme which is used as a meat tenderizer.
Explain the role of amylases in the production of high fructose corn syrup. Name two important enzymes used in cheese production. 1 + 2 + 2
6. What are different factors on which the bacterial efficacy of a given dose of radiation of food depends on ?

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. Explain the effect of amylases, proteases, lipases for the quality improvement of bread. 5 + 5 + 5
8. What are the environmental conditions which favours aflatoxin production in food ? Which type of food is involved in its production ? How is the production of aflatoxin prevented ? What are the toxicity symptoms of aflatoxin ?
Mention two aflatoxin producing strains. 3 + 2 + 3 + 5 + 2



9. What are food additives ? Write the role of any vitamin as a colouring agent. Mention some of the flavouring agents obtained from microbial species. Describe the microbial production of any one of such flavouring agents. 3 + 3 + 4 + 5
10. a) Discuss about different types of mushrooms and explain the nutritional importance of mushroom. Explain schematically the production of mushrooms.
- b) Describe the production of wine and briefly explain how the process of ageing changes the characteristics of wine. 4 + 3 + 3 + 5
11. Write short notes on any *three* of the following : 3 × 5
- a) Maillard reaction
 - b) Botulism
 - c) *D* value and *Z* value
 - d) Chemical poisoning.
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