WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 4th Semester Examination, 2021

MCBACOR10T- MICROBIOLOGY (CC10)

Time Allotted: 2 Hours | Full Marks: 40

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.

Question No. 1 is compulsory and answer any *four* from the rest

1. Answer any ***four*** questions from the following**:** 2×4 = 8

   (a) What do you mean by single cell protein?

   (b) How does freezing help in preservation of food?

   (c) What is blanching of food?

   (d) What is ropiness? Name the causative agent of ropiness.

   (e) Name one hard cheese and one soft cheese.

   (f) What is cross contamination of food?

   (g) What is the composition of milk?

   (h) Name any two antibiotics used in food preservation.

2. (a) What is the high voltage pulse? How does it help to preserve food? 1+2

   (b) What metabolic activities of microbes may lead to food spoilage? 3

   (c) What are the primary sources of microorganisms found in food? 2

3. (a) Mention the various intrinsic factors affecting the microbial growth in foods. 3

   (b) Name two conservation methods to reduce the water activity in a food. 2

   (c) Fresh meat spoils very fast, why? Suggest one method of its preservation. 2+1

4. (a) What is the time and temperature relationship used in HTST & UHT method of pasteurization? 2

   (b) List any four organisms that cause spoilage in fruits and vegetables. 2

   (c) Why the microenvironment of butter unfavourable for growth of microorganisms? 2

   (d) How does ethylene oxide help in preserving food? 2

5. (a) Mention the health benefits of fermented foods. 2

   (b) Name the starter culture of the following fermented foods: 3

   (i) Acidophilus milk (ii) Dosa (iii) Sauerkraut

   (c) What is HACCP? Discuss its relevance in the context of food safety. 1+2

6. (a) Give the microorganisms responsible for the following spoilage 1+1+1+1

   (i) Black rot in egg

   (ii) Sweet curdling in milk

   (iii) Ropy bread

   (iv) Bulging of cans

   (b) Explain lactic acid fermentation in Sauerkraut. 4

7. (a) Differentiate between food borne intoxication and food borne infection. Give example of each. 3+1

   (b) What are '4Ds' in Botulism? 2

   (c) What is the significance of carbon dioxide in carbonated beverages and soft drinks? 2

8. Write short notes on any ***two*** of the following: 4×2 = 8

   (a) Spoilage of Bread

   (b) Shigellosis

   (c) Canning method of food preservation

   (d) Food poisoning by *Clostridium botulinum*.

9. (a) What is the range of hydrostatic pressure to be applied to destroy- 2

   (i) vegetative forms of microorganisms

   (ii) spores

   (b) What is radappertization? 2

   (c) How efficiency of pasteurization determined? 2

   (d) What is flat sour spoilage? Name the causative organism. 2

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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