

B.Sc. 5th Semester (Honours) Examination, 2022 (CBCS)

Subject : Nutrition

Course : CC-XI

(Food Microbiology and Food Borne Diseases)

Time : 2 Hours

Full Marks : 40

The figures in the margin indicate full marks.

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

1. Answer *any five* questions of the following: 2×5=10
 - (a) What are fastidious microorganisms?
 - (b) Define obligate aerobes.
 - (c) What are the postulates proposed by Robert Koch?
 - (d) Write the full form of HEPA and mention its application.
 - (e) Define the term dry sterilization.
 - (f) What do you mean by pure culture?
 - (g) Among a 73 year old man, college teenager and pregnant women who is more susceptible to be infected by *Listeria monocytogenes*? What are the symptoms exhibited in the patient?
 - (h) What is the pressure and temperature used in autoclave for sterilization?

2. Answer *any two* questions of the following: 5×2=10
 - (a) Why is Blood Agar media considered as both selective and differential media at the same time? Explain.
 - (b) How is staphylococcal food-poisoning different from that of Botulism? What is difference between food intoxication and food infection? 2+3=5
 - (c) What are the intrinsic factors that affect bacterial growth?
 - (d) What is aflatoxin? How does it cause intoxication? 2+3=5

3. Answer *any two* questions of the following: 10×2=20
 - (a) Define bacterial growth. "Bacteria exhibit sigmoid growth curve"– explain with suitable diagram. Write the differences between total count and viable count of bacteria. 2+6+2=10

- (b) State the names of any three chemical agents used for control of microorganism and briefly discuss their mode of action. Write the application of hot air oven. How is sterilization different from disinfection? 6+2+2=10
- (c) Briefly describe the mode of action of *Clostridium botulinum*. What are the signs and symptoms of botulism? How is it treated? 4+4+2=10
- (d) Define culture media. Write the significance of peptone, yeast extract, NaCl and agar used in media preparation. What do you mean by 'differential media' and 'semi-solid media'? 2+4+2+2=10
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