

**Microbiology (P.G.)****[CBCS]****M.Sc. Third Semester End Examination-2024****(Regular & Supplementary Paper)****PAPER-MCB-303****[Fundamentals and Application of food Microbiology]****Full Marks: 40****Time: 02 Hrs***The figures in the right hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.**Illustrate the answers wherever necessary.***Group A (MCB-303.1)****(Marks 20)****1. Answer any two questions of the following: 2x2= 4**

- a) What do you mean by food intoxication and food infection? 1+1
- b) Write down the full forms of HACCP and EPA. 1+1
- c) What is semi perishable food? Give one example. 1+1
- d) What is probiotics? Write down its importance. 1+1

**2. Answer any two questions of the following: 2x4= 8**

- a) Write down the extrinsic and intrinsic factors influencing the growth of microbes in food. 2+2

(2)

- b) Write down the source of microorganism in different foods. 4
- c) How does shelf-life depend on moisture and fat content of food?  
2+2
- d) What are food additives? Write down the basic principle of food  
sapoilage 1+3

**3. Answer any one question of the following: 1x8=8**

- a) What is canning? Describe the industrial canning process? How  
canned foods get spoiled? 2+3+3
- b) What is meant by food preservation? Describe the process of  
preservation? 2+6

**Group B (MCB-303.2)**

**(Marks 20)**

**1. Answer any two questions of the following: 2x2= 4**

- a) Mention the types of bacteriocin from grampositive bacteria. 2
- b) What is SCOBY? Mention the properties of ideal acetic acid  
bacteria. 1+1
- c) What is spore printing? Is mycoprotein suitable for vegans? 1+1
- d) Write examples of pigment and flavour producing organisms.  
1+1

(3)

**2. Answer any two questions of the following: 2x4= 8**

- a) Briefly describe the production mechanism of golden rice with  
diagram. 4
- b) Write down the advantages of fermented foods. 4
- c) Write a short notes on i) Nisin ii) Mycoprotein 2+2
- d) Why microbial cell treated at 65<sup>0</sup>C for any SCP production?  
Why oriental fermented foods are receiving attention for western  
consumers? 2+2

**3. Answer any one question of the following: 1x8=8**

- a) Mention the qualities of good compost for mushroom  
production. Briefly describe the factors that affect citric acid  
production. How citric acid is recovered from fermented broth?  
3+3+2
- b) Write down the cultivation process of Spirulina. Mention the  
health benefits of chlorella. Briefly describe the koji making  
process for soya sauce production. Mention the name of  
microorganisms involved in Poi production. 3+2+2+1

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