

**Total No. of Pages : 02**

**Max. Marks : 60**

2. Each question carries TWELVE marks.

1. a) How the sensory panelist are selected? Name various tests used to select sensory panellist and explain any two. (2+4)  
b) What are a sample and its requirements? Explain acceptance sampling plan and random sampling plan. (6)
2. a) Write about working of a Food Safety and Management Systems (FSMS). (3)  
b) Discuss the Key benefits of FSMS. (4)  
c) Explain sampling risks. What are double and multiple sampling plans. Explain with any example. (5)
3. a) Explain the criteria of production of safe food. (3)  
b) How we produce safe food by implying HACCP concept? (3)  
c) What is FSSA-2011? Discuss about working of FSSA-2011. (6)
4. a) What is null hypothesis and test of significance? Discuss. What are analysis of variance and its significance? (6)  
b) What is ISO 9000 and ISO-22000? Discuss the implementation procedure for the ISO- 22000 in the food industry. (6)

5. a) How auditing helps to overcome GAP in the ISO implementations? Explain auditing methodology in SIO certification (5)
- b) How HACCP works? What steps are required to be taken to have effective HACCP plan? Draw HACCP plan for a vegetable canning line. (2+5)
6. a) How FAO works in order to achieve the aim and objective laid down in its preamble. (4)
- b) What are WHO and its objective? Write about its achievements and work plan. (4)
- c) Elaborate the role of FAO and WTO in controlling hunger and food supply. (4)
7. a) How the product quality is governed in TQM system (4)
- b) What is objective IPR and patent laws? (4)
- c) Write role of GATT in dispute resolution. How it works? (4)
8. a) Discuss adulteration and its detection in turmeric powder, chilli powder and preservatives in milk. (5)
- b) What type of adulterants are added in black pepper, clove and chilli whole. (2)
- c) Write the method steps for detection of following adulterants (5)
- i) Artificial prohibited colour in powdered spices
- ii) Adulterants in cinnamon, coriander, asafetida,
- iii) Papaya seed, powdered bran in spices

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**