SEMESTER – 4

COURSE CODE: BPVC-105

COURSE TITLE: FOOD SAFETY AND QUALITY ASSURANCE

Attempt both parts of the assignment. **Maximum Marks: 100**

PART – A: ASSIGNMENTS

Attempt all questions. All questions carry equal marks. Write your answers in about 500 words. **Marks: 5x10=50**

1. Explain the principles of HACCP and preventive controls and describe how they contribute to the identification and control of food safety hazards. 10
2. Compare FSSAI, BIS and AGMARK with respect to their functions, areas of responsibility and certification systems in ensuring food quality and safety. 10
3. Explain the role and scope of BRC and SQF standards in ensuring food safety across modern supply chains. 10
4. Discuss the major challenges in harmonizing food regulations across Asia and suggest measures for strengthening regional food safety governance and cooperation. 10
5. A food business establishment intends to establish a Food Safety Management System. Identify the major components of an FSMS and explain how they contribute to preventive control and continual improvement of food safety. 10

PART – B: ACTIVITIES

Perform all activities. Submit the evidence (activities notebook, charts etc.) of any FIVE Activities. For details, kindly refer to Block 6: Activities Manual. **Marks: 5x10=50**

Activity 1: Identification of food safety hazards and their sources.

Activity 2: Preparation of a list of national and international organizations involved in food safety.

Activity 3: Compilation of information/reports on the food safety incidents and food-borne disease outbreaks in India and abroad.

Activity 4: Identification of food products with declared food allergens on labels.

Activity 5: Study of quality changes in edible oil during repeated deep frying and storage.

Activity 6: Compilation of information /reports on food fraud incidents in India or abroad.

Activity 7: Compilation of information on adulterants and their testing methods as prescribed by FSSAI.

Activity 8: Detection of adulteration in selected food products using simple home-based tests.

NOTE:

For the assignment questions of other generic courses you have opted for in the 4th Semester i.e., **Minor Discipline Specific Course, and Skill Enhancement Course (SEC)**, kindly download them (search course codes in the format e.g. BCOS-185, select the correct session and download them) from the assignment section of the IGNOU website (https://www.ignou.ac.in/studentService/download/assignments).

1. Explain the principles of HACCP and preventive controls and describe how they contribute to the identification and control of food safety hazards. 10

Answer

Food can become unsafe at any stage from receiving raw materials to serving the consumer. Hazard Analysis and Critical Control Point (HACCP) is a systematic, science-based method for preventing food safety problems instead of relying only on inspection of the finished product. Hazards are grouped as **biological** (such as Salmonella and pathogenic E. coli), **chemical** (pesticide residues, undeclared allergens or cleaning agents) and **physical** (glass, metal and stones). Preventive controls are measures selected to reduce these hazards to an acceptable level.

Seven principles of HACCP

- **Conduct a hazard analysis.** Draw the actual flow of operations and identify reasonably likely hazards at receiving, storage, processing, packing and distribution. Assess their seriousness and likelihood. For example, raw poultry may contain harmful bacteria and nuts may introduce an allergen.
- **Identify critical control points (CCPs).** Find stages at which control is essential to prevent, eliminate or reduce a significant hazard. A validated cooking step may be a CCP for bacterial pathogens. Not every step is a CCP.
- **Establish critical limits.** Set measurable boundaries such as validated core temperature, time, pH or metal-detector sensitivity. The values must come from scientific guidance, product validation or applicable legal requirements, not guesswork.
- **Establish monitoring.** Specify what is checked, by whom, how and how often. A calibrated thermometer and a recorded cooking-time check can show whether a CCP remains under control.
- **Establish corrective action.** When a critical limit is missed, hold and assess affected product, correct the process, identify the cause and document what was done. Unsafe food must not be released merely because processing has resumed.
- **Establish verification.** Confirm that the system works by reviewing records, calibrating instruments, testing where appropriate, conducting internal audits and revalidating controls following process changes.
- **Establish documentation and records.** Preserve the hazard analysis, HACCP plan, monitoring logs, deviations, corrective actions and