Syllabus for Food Industry Production Assistant

Course Name	Food Industry Production Assistant
Sector	Food Processing
Course Code	FPT/2024/FIPA/416
Level	3
Occupation	Food Processing Assistant
Job Description	Food Industry Production Assistant perform tasks such handling and operating of equipment on production line, monitoring production, cleaning up equipment and food processing workplace as per instructions of company and specific requirements, legislation/regulatory standards, policies provided by government.
Course Duration	**Total Duration 390 Hrs (T- 90, P- 180, OJT-60 and ES-60)**
Trainees' Entry Qualification	Grade 10 OR Grade 8 with two year of (NTC/ NAC) after 8th OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR Previous relevant Qualification of NSQF Level 2 with one year experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
Trainers Qualification	• M. Sc./ M.Tech / M.E in Food Technology or Food Engineering or allied sector with 2yrs experience in relevant field • B.Sc or graduate/ B.Tech/BE in Food Technology or Food Engineering or allied sector with 3yrs experience in relevant field • B.Sc in Food or allied sector with 3yrs experience in relevant field • B.Sc in Home Science with 5yrs experience in relevant field • Diploma in Food Technology or Food Engineering with 4yrs experience in relevant field

Structure of Course:

Module No.	Module name	Outcome	Theory (Hrs)	Practical (Hrs)	Total (Hrs) [Multiple of 30]
1.	**Overview**	Identify the roles and responsibilities of Food industry production Assistant	10	20	30
2.	**Production line monitoring**	Monitor various stages of different food processing operations in mechanized and automated production line	30	60	90
3.	**Cleaning Food Processing equipment**	Apply cleansing agent to clean machinery as per recommended sanitizers through the CIP procedure.	10	20	30
4.	**Maintain occupational safety hazards at work place**	Apply safe working practices at work place	20	40	60
5	**Production Scheduling**	Assist to plan, organize and execute efficient production schedules within a Food Processing Unit	10	20	30
6.	**Workplace communication strategies**	Demonstrate a comprehensive effective workplace communication strategy **TXT/3723/OC5**	10	20	30
7	**OJT**	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	--	60	60
8	**Employability Skill**	As per guided curriculum	60	--	60
		TOTAL:	150	240	390

SYLLABUS:

Module 1: Overview

Outcome: Identify the roles and responsibilities of Food industry production Assistant

Theory Content:

- Roles and responsibilities of food industry production Assistant.
- Identify category of food sub sector like Dairy Products, Bread and bakery, soft drinks beverage, fruit and vegetable processing
- Economic advantage of food processing industry in India.
- Indian market of food processing industry.
- Outline roles and responsibilities and safety procedures.
- Outline the job opportunities in different food processing sector.
- Discuss occupational health and safety guidelines and Personal protective equipment (PPE).

Practical Content:

- Demonstrate category of food sub sector like Dairy Products, Bread and bakery, soft drinks beverage, fruit and vegetable processing.
- Identify the economic advantage of food processing industry in India.
- Perform survey of Indian market of food processing industry.
- Evaluate job opportunities in different food processing sector.
- Highlight roles and responsibilities and safety matter in different food processing sector.
- Use Personal protective equipment (PPE).

Classroom Aids:

Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

Tools, Equipment and Other Requirements:

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual.

Module 2: Production line monitoring

Outcome: Monitor various stages of different food processing operations in mechanized and automated production line

Theory Content:

- Issue of hygiene in the Food Processing workplace.
- Production line machine identification
- Outline the manufacturing process of different food items step by step.
- Discuss on various parameters (temperature, pressure, blower RPM) of food processing machine used in each operational step.
- Explain operational manual of machineries.
- Illustrate the various stages of food processing operation.
- Explain control line speeds, reduction-- rates, starting and stopping process of food processing equipment and machineries.
- Explain the operation of critical equipment such as electrical generator, refrigeration and freezer units, pumps, safety lighting, hot water heaters, cooling tower etc.
- Outline operation of conveyor belt for items pass from one step to another step.
- Standard quality as per the specification and guidelines of FSSAI. HACCP principle.
- Explain product packaging system.
- Discuss proper libelling and bar code system in each packed product items.
- Depict the shifting duty process at workplace.

Practical Content:

- Exhibit the correct cleaning of food processing machinery using recommended sanitizers through the CIP procedure.
- Measure various parameters (temperature, pressure) of food processing machine used in each operational step.
- Demonstrate control line speeds, reduction rates, starting and stopping process of food processing equipment and machineries.
- Demonstrate the operation of critical equipment such as electrical generator, refrigeration and freezer units, pumps, safety lighting, hot water heaters, cooling tower etc.
- Check out operation of conveyor belt for items pass from one step to another step.
- Identify the appropriate method to shut down the operating system.
- Examine the outcome product meets the standard quality as per the specification and guidelines of FSSAI.
- Demonstrate operations of different packaging machineries during product packaging.
- Perform proper libelling and bar code system in each packed product items.
- Depict the process of storage and distribution systems of different types of packed food items.

- Highlight the utility services of company, garbage hauling service, ice supply, gas supply, fuel supply, water supply refrigerated truck company, food warehouse, wastewater disposal service, solid waste disposal service,

Classroom Aids:
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

Tools, Equipment and Other Requirements:
Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual. Processing unit, conveyor and processing belts,

Module 3: Cleaning Food Processing equipment

Outcome: Apply cleansing agent to clean machinery as per recommended sanitizers through the CIP procedure.

Theory Content:

- Delve into ingredients used in different food processing operations.
- Describe common detergents and sanitizers employed for cleaning work areas and machinery.
- Articulate the methods employed for cleaning and sanitization.
- Enumerate the necessary tasks to be completed before commencing production.
- Enumerate the materials and equipment utilized in the cleaning and maintenance of a work areas.

Practical Content:

- Identify various ingredients used in different food processing operations.
- Identify common detergents and sanitizers employed for cleaning work areas and machinery.
- Execute the cleaning and sanitization of different food processing equipment and tools.
- Examine microbial contamination in different food processing equipment and tools during cleaning.
- Perform proper sanitization of different food processing equipment and tools.
- Conduct a thorough inspection to ensure all machinery is clean and in optimal working condition.

Classroom Aids:
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

Tools, Equipment and Other Requirements:
Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, detergent, cleaning agent, hot water, alkali, acid, Food Safety Manual, hygiene guideline.

Module 4: Maintain occupational safety hazards at work place

Outcome: Apply safe working practices at work place

Theory Content:

- Identify the name and location of people responsible for health and safety in the workplace.
- Classify job-site hazardous work and risk in food processing work place [sharp edged tools; hazardous surfaces(sharp, slippery, uneven, chipped, broken, etc.); physical hazards(working at heights, manual handling, sharp equipment, sharp and piercing objects, excessive noise, confined spaces, obstructions due to unattended carcasses movement along the rails/ conveyors & trolleys, blind turns, poor ventilation, over stacked shelves and packages, etc.) electrical hazards (power supply and points, loose and naked cables and wires, equipment malfunctions, etc.)]
- Identify health hazards (such as untreated injuries and contagious illness/ zoonotic diseases).

- Explain electrical precautions like insulated clothing, adequate equipment insulation, use dry work area etc.
- Use and maintain sterilized tools and equipment; prevent organic material and carcass contamination.
- Carry out safe working practices in proper ventilation, lighting area in work place.
- State the method of Fire safety and prevention of fire hazards in workplace [fire extinguishers, fire Alarm, fire exits]
- Outline good housekeeping practices at all times good housekeeping practices: clean/tidy work areas, removal/disposal of waste products, protect surfaces, disinfect work areas.
- Illustrate operational safety and precursor during cleaning of equipment and tools using authorized cleaning agents and sanitizers.
- Elaborate method of pest management and non-chemical methods of insect management in workplace.
- Discuss on relevant food safety policies such as propriety product policy, gloves policy, restrictions on harmful chemicals inside work area during production.
- Explain proper method of rescue techniques applied during fire hazard and other accidental situation.
- Elaborate a written accident/incident report or dictate a report to another person, and send report to person responsible incident report includes details of: name, date/time of incident, date/time of report, location, environment conditions, persons involved, sequence of events, injuries sustained, damage sustained, actions taken, witnesses, supervisor/manager notified

Practical Content:

- Show the hazardous materials / surfaces in food processing workplace
- Highlight physical hazards (working at heights, manual handling, sharp equipment, sharp and piercing objects, excessive noise, confined spaces, obstructions due to unattended carcasses movement along the rails/ conveyors & trolleys, blind turns, poor ventilation, over stacked shelves and packages, etc.)
- Identify electrical hazards (power supply and points, loose and naked cables and wires, equipment malfunctions, etc.)
- Apply electrical precautions like insulated clothing, adequate equipment insulation, use dry work area etc.
- Demonstrate use of sterilize tools and equipment to prevent microbial contamination (bacteria).
- Demonstrate method of Fire safety and prevention of fire hazards in workplace [fire extinguishers, fire Alarm, fire exits]
- Demonstrate use of general health and safety equipment and materials in the workplace [first aid equipment; safety instruments and clothing, cotton]
- Examine method of pest management and non-chemical methods of insect management in workplace.
- Investigate relevant food safety policies such as propriety product policy, gloves policy, restrictions on harmful chemicals inside work area during production.
- Highlight the safety measure in the utility services of company, garbage hauling service, ice service, gas service, fuel service, water service, refrigerated truck area service, food warehouse service, wastewater disposal service, solid waste disposal service, local health service department, emergency broadcast service.
- Depict the process of appropriate first aid to victims, in case of bleeding, burns, choking, bandaging, electric shock, poisoning during working in workplace.
- Present proper method of rescue techniques applied during fire hazard and other accidental situation.

Classroom Aids:
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook

Tools, Equipment and Other Requirements:
Protective Gloves, Head Caps, Safety Goggles, Safety Boots, Mouth Masks, coats and aprons; ear plugs or muffs; eye and facial protection; head-wear; lifting assistance; mesh aprons; protective boot covers; protective hand and arm covering ; protective head and hair covering; work uniforms; safety and waterproof footwear, containers, utensils, hand tools, fire extinguishers, fire Alarm, first aid equipment; safety instruments and clothing, cotton, processing belts, accidental rescue equipments, Food Safety Manual, hygiene guideline.

Module No. 5: Production Scheduling

Outcome: Assist to plan, organize and execute efficient production schedules within a Food Processing Unit

Theory Content:

1. Define and interpret production orders with specification, quantity and delivery deadlines
2. Learn techniques for allocating resources, including machinery, manpower and materials to maximize efficiency and minimize downtime
3. Following production timelines
4. Optimizing machine utilization
5. The concept of balancing workflow
6. Techniques for managing variations in production volume and demand.
7. Importance of effective communication within the production team
8. Explain shift handover Process

Practical Content:

Trainer will give a project on field visit of production of any one type of food processing unit to the students with the specifications of the product, quantity and timelines to be completed maintaining the following criteria:

1. Interpretation of production orders, including specifications, quantity requirements and delivery deadlines.
2. Demonstrate the completion of a task with allocated machinery, manpower and materials
3. Follow timelines by considering complexity, production capacity and lead times.
4. Explore the strategies to optimize machine utilization including machine maintenance, adjusting machine set up
5. Identify potential delays and make on the spot adjustments to schedules by reallocating resources
6. Role play scenarios that simulate communication challenges withing a production team.
7. Maintain all follow up actions post shift handover Process.

Module 6: Workplace communication strategy

Outcome: Demonstrate a comprehensive effective workplace communication strategy

Theory Content:

- Explain purpose or common goals of each member in a group of willing to work toward. Members feel that they played a role in determining these goals and the methods used to achieve them.
- Describe the task between each member in group, but also with its own processes and operating procedures. The group periodically evaluates its performance.
- Elaborate the method of willingly accepts the influence and leadership of members whose resources are relevant to the immediate task.

- Maintain Communication is clear and direct manner.
- Use appropriate tone, pitch and language during communication.
- Outlining enterprise ethical standards and requirements for interacting with other employees and staff.
- Explain good communication environmental practices in workplace.
- Discuss supervision policy as a leader who can bring the group together and build an environment in which the team can work together effectively.

Practical Content:

- Demonstrate the purpose or common goals of each member in a group of willing to work toward. Members feel that they played a role in determining these goals and the methods used to achieve them.
- Identify the task between each members in group, but also with its own processes and operating procedures. The group periodically evaluates its performance.
- Exhibit the accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required.
- Apply Communication is clear and direct manner.
- Apply good communication environmental practices in workplace.
- Simulate/role play of ethical dilemmas in the workplace
- Illustrate organizational policies and procedures

Classroom Aids:
Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook
Tools, Equipment and Other Requirements:

Protective Gloves, Head Caps, Aprons, Safety Goggles, Safety Boots, Mouth Masks, Sanitizer, Food Safety Manual, communication tools, communication manual, On-task Communication, Instant Chats , Video Conferencing, Voice Calls, Audio Recording, Discussion Forums, Instant File Sharing, External Communication

Module 7: OJT
Outcome: Work in real job situation with special emphasis on basic safety and hazards in this domain

Practical Content:

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for **60 Hours.**)
Tools, Equipment and Other Requirements:
Filters, Clarifiers Vat Pasteurizer equipment, Plate Pasteurizer and HTST pasteurization equipment Homogenizer, milk Chillers. evaporator for condensed milk, Cooling and Spray Dryer, Homogenizer for cream, butter churner, ghee vat, Juice Extractor (Screw type), Pulper Electric, Mechanical peeler/ Batch type for fruit and vegetable peeling, Steam jacket kettle, Baby Boiler/Diesel fuel/capacity of boiler as per capacity of steam jacket kettle, Blanching Chamber, Auto claves, Water Tank, Fruit Slicing Machine, Sealing Machine, Pickle Mixer, Milk analyzer, baking deck oven, baking tray, planetary mixer, proofer, cutting and sheeting machine, bread pan, cake pan, biscuit dice, cookies deposit machine manual, cooling rack, cake decoration tools, rice milling machine, Wheat Milling machine. Dal mill, Edible oil extractor, can reformer, can flanger, can seamer, exhaust box, blanching unit, canning retort, vacuum tray drier, fluidized bet dryer, spray dryer, Drum dryer, tunnel dryer, conveyer belt dryer, plate freezer, air blast freezer, liquid nitrogen spray freezer.

Module 8: Employability Skills (60 Hrs)

Key Learning Outcomes

Introduction to Employability Skills Duration: 1.5 Hours

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship Duration: 1.5 Hours

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century Duration: 2.5 Hours

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills Duration: 10 Hours

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting Duration: 2 Hours

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion Duration: 2.5 Hours

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy Duration:5 Hours

17. Outline the importance of selecting the right financial institution, product, and service

18. Demonstrate how to carry out offline and online financial transactions, safely and securely

19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills Duration: 10 Hours

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

Customer Service Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

Learning Outcome – Assessment Criteria

Module No.	Outcome	Assessment Criteria
1	Identify the roles and responsibilities of Food industry production Assistant	**After completion of this module students will be able to:** 1.1 Select appropriate category of food sub sector 1.2 Identify the economic advantage of food processing industry in India. 1.3 Perform survey of Indian market of food processing industry. 1.4 Identify the job opportunities in different food processing sector. 1.5 Identify roles and responsibilities and safety matter in different food processing sector.

Module No.	Outcome	Assessment Criteria
2	Monitor various stages of different food processing operations in mechanized and automated production line	**After completion of this module students will be able to:** 2.1 Use appropriate personal protective equipment (PPE)against hazards associated with production area as per occupational health and safety guidelines. 2.2 Carry out preliminary safety & hygiene checks of the working area. 2.3 Place the equipment for carrying the food items in the stacking equipment in correct position and load into the machine 2.4 Identify mechanical and technical problem of machines prior to operation. 2.5 Identify regulatory keys of the machine and automated functions process. 2.6 Identify the various stages of food processing operation to regulate FSSAI quality standards. 2.7 Operate critical equipment such as electrical generator, refrigeration and freezer units, pumps, safety lighting, hot water heaters, cooling tower etc. 2.8 Identify the physical, chemical and biological hazards applicable in each operational steps as per guideline of HACCP principle. 2.9 Conduct performance check of equipment to maintain effective operating condition 2.10 Check out operation of conveyor belt for items pass from one step to another step. 2.11 Identify the appropriate method to shut down the operating system. 2.12 Examine the outcome product meets the standard quality as per the specification and guidelines of FSSAI. 2.13Operate different packaging machineries during product packaging. 2.14 Perform proper labeling and bar code system in each packed product items. 2.15 Conduct legislation/regulatory requirements, standards, policies, and procedures followed at food processing workplace.
3	Apply cleansing agent to clean machinery as per recommended sanitizers through the CIP procedure.	**After completion of this module students will be able to:** 3.1 Identify various ingredients used in different food processing operations. 3.2 Identify common detergents and sanitizers employed for cleaning work areas and machinery. 3.3 Execute the cleaning and sanitization of different food processing equipment and tools. 3.4 Examine microbial contamination in different food processing equipment and tools during cleaning. 3.5 Perform proper sanitization of different food processing equipment and tools. 3.6 Conduct a thorough inspection to ensure all machinery is clean and in optimal working condition.

Module No.	Outcome	Assessment Criteria
4	Apply safe working practices at work place	**After completion of this module students will be able to:** 4.1 Use protective clothing/equipment for specific tasks and work conditions. 4.2 Identify the hazardous surfaces (sharp, slippery, uneven, chipped, broken, etc.) 4.3 Identify the physical hazards (working at heights, manual handling, sharp equipment, sharp and piercing objects, excessive noise, confined spaces, obstructions due to unattended carcasses movement along the rails/ conveyors & trolleys, blind turns, poor ventilation, over stacked shelves and packages, etc.) 4.4 Identify electrical hazards (power supply and points, loose and naked cables and wires, equipment malfunctions, etc.) 4.5 Detect health hazards (such as untreated injuries and contagious illness/ zoonotic diseases). 4.6 Use of sterilize tools and equipment to prevent microbial contamination. 4.7 Maintain Fire safety and prevention of fire hazards in workplace [[fire extinguishers, fire Alarm, fire exits] 4.8 Ensure use of general health and safety equipment and materials in the workplace [first aid equipment; safety instruments and clothing, cotton] 4.9 Examine method of pest management and non-chemical methods of insect management in workplace. 4.10 Investigate relevant food safety policies such as propriety product policy, gloves policy, restrictions on harmful chemicals inside work area during production. 4.11 Maintain the safety measure in the utility services of company, garbage hauling service, ice service, gas service, fuel service, water service, refrigerated truck area service, food warehouse service, wastewater disposal service, solid waste disposal service, local health service department, emergency broadcast service. 4.12 Apply appropriate first aid to victims, in case of bleeding, burns, choking, bandaging, electric shock, poisoning during working in workplace. 4.15 know proper method of rescue techniques applied during fire hazard and other accidental situation.
5	Assist to plan, organize and execute efficient production schedules within a Food Processing Unit	After completion of this module students will be able to: 5.1 Interpret and extract key information from production orders 5.2 Explain the procedure of allocating resources considering machinery, manpower and materials to maximize efficiency and minimum downtime during production process 5.3 Follow the production timeline optimizing the utilization of machines and other equipment's 5.4 Follow strategies for balancing workflow, managing peak seasons and handling fluctuations in production requirements 5.5 Identify potential delays or issues 5.6 Make timely adjustments to schedules by reallocating resources and prepare documentation accordingly. 5.7 Explain procedure for shift handover

Module No.	Outcome	Assessment Criteria
6	Demonstrate a comprehensive effective workplace communication strategy	**After completion of this module students will be able to:** 6.1 Demonstrate the purpose of each team member and their involvement in determining goals 6.2 Identify tasks between team members and their own processes 6.3 Apply effective communication strategies in a practical context 6.4 Exhibit enterprise ethical standards in workplace interactions 6.5 Apply good communication environmental practices in practical workplace 6.6 Simulate/Role play ethical dilemmas in the work place 6.7 Illustrate familiarity with relevant industry standards and regulations. 6.8 Explain the organizational policies and procedures
7	OJT	Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for 60 Hours.)
8	Employability Skill	As per guided curriculum

List of Tools, Equipment & materials needed for 30 Trainees (Practical)

Sl No	Items Name	Specification	Qty
1	Computer	Latest configuration	1
2	White board	Standard 6'x4'	1
3	Marker		As required
4	Chart papers		As required
5	Projector		1
6	Trainer's guide		1
7	Aprons		30
8	Ear plugs		30
9	Eye and facial protection		30
10	Muffs		30
11	Head-wear		30
12	Hand gloves		30
13	Mesh aprons		30
14	Protective boot cover		30
15	Protective hand and arm covering		30
16	Protective head and; hair cover		30
17	Uniforms		30
18	Waterproof footwear		30
19	Containers		12

Sl No	Items Name	Specification	Qty
20	Hand tools		12
21	Lifting aids		6
22	Stacking equipment		2
23	Conveyor,		1
24	Processing belts		1
25	Fire extinguishers		2
26	Fire Alarm		2
27	First aid equipment		3
28	Safety instruments		3
29	Cotton		6
30	Rescue equipments		1
31	Mouth Masks		60
32	Sanitizer		6
33	Detergent		6
34	Cleaning agent		6
35	Gas oven		1
36	Dekchi,2 lit,SS	Dekchi,2 lit, made by high quality heavy gauge low carbon food grade steel	3
37	Dekchi,5 lit,SS	Dekchi,5 lit, made by high quality heavy gauge low carbon food grade steel	3
38	Dekchi,8 lit,SS	Dekchi,8 lit, made by high quality heavy gauge low carbon food grade steel	3
39	Dekchi,10 lit,SS	Dekchi,10 lit, made by high quality heavy gauge low carbon food grade steel	3
40	Dekchi,20 lit,SS	Dekchi,20 lit, made by high quality heavy gauge low carbon food grade steel	3
41	Plastic bucket, 20lit	Plastic bucket, 20lit, heavy gauge nylon made	3
42	Cooking pan 3 lit	Cooking pan 3 lit, made by high quality heavy gauge low carbon food grade steel	3
43	Cooking pan 5 lit	Cooking pan 5 lit, made by high quality heavy gauge low carbon food grade steel	3
44	Cutting knife , small size	Cutting knife made of high quality steel, manual	3
45	Cutting knife , medium size	Cutting knife made of high quality steel	3
46	Cutting knife , Big size	Cutting knife made of high quality steel	3
47	Basket plastic, medium size	Basket plastic, heavy gauge nylon made	3
48	Basket plastic, large size	Basket plastic, heavy gauge nylon made	3
49	Tray ,plastic, (19''×13'')	Tray ,plastic, (19''×13''), heavy gauge nylon made	3
50	Tray,SS 4 NO, with handle	Tray,SS 4 NO, with handle, made by high quality heavy gauge low carbon food grade steel	3
51	Drum with cover, SS, 10 lit	Drum with cover, SS, 10 lit, made by high quality heavy gauge low carbon food grade steel	3
52	Drum with cover, SS, 15 lit	Drum with cover, SS, 15 lit, made by high quality heavy gauge low carbon	3

Sl No	Items Name	Specification	Qty
		food grade steel	
53	Sieves, SS, medium size	Sieves, SS, medium size made by high quality heavy gauge low carbon food grade steel	3
54	Sieves, SS, big size	Sieves, SS, big size made by high quality heavy gauge low carbon food grade steel	3
55	Strainer with handle, SS, small size	Strainer with handle, SS, small size, made by high quality heavy gauge low carbon food grade steel	3
56	Strainer with handle, SS, medium size	Strainer with handle, SS, medium size, made by high quality heavy gauge low carbon food grade steel	3
57	Milk Adulteration kit	Milk Adulteration kit	02
58	Gerber Centrifuge Machine	Description : Electric Gerber Machine for 24 Test with Mechanical Brake, 0-30 Minutes Timer, Stainless Steel Disc. & Protective cover. Supply with accessories Milk Testing Kit Type : For FAT/SNF Testing Unit : Set Description :2.0000 Each Kit Consisting of: Std. Pack a. Milk Butyrometer 0 - 10 % 20 "BENNY" - Tested b. Lock Stopper - Brass Cap 60 c. Lock Stopper Key - Aluminium 06 d. Milk Pipette 10.75 ml 06 "BENNY" e. Plastic Till Measure - 1ml 06 with bottle f. Plastic Tilt Measure - 10 ml 06 With bottle g. Sample Bottle 85 ml 50 h. Plastic Sample Bottle Stand 03 12 holes i. Plastic Butyrometer Shaking 03 Stand - 12 holes j. Plastic Butyrometer Holding 03 Stand - 12 holes k. Plastic Pipette Stand 02 l. Nylon Butyrometer Cleaning 01 gross Brush m. Nylon Pipette Cleaning Brush 01 gross n. Nylon Sample Bottle Cleaning Brush 01 gross o. Stainless Steel Sample Dipper 02 100 ml p. Plastic Dropping Bottle 06 250 ml q. Thermometer 0 - 110°C Alcohol 10 Research r. Lactometer 0 - 40° at T 84°F 12 Tested	01

Sl No	Items Name	Specification	Qty
		s. Plastic Lactometer Jar - small 06 t. Stainless Steel Can Plunger 01 u. Anyl Alcohol - Grade A 02 Ltr. v. Con sulphuric acid 02 Ltr.	
59	Refrigerator	Refrigerator	1
60	Fruit tray	Fruit tray	06
61	Cutting knives	Cutting knives	06
62	Electric mixer	Electric mixer	01
63	Pressure cooker	Pressure cooker	01
64	Coring knives	Coring knives	02
65	Pitting knives	Pitting knives	02
66	Juice Extractor (Screw type)	Juice Extractor (Screw type)	01
67	Pulper Electric	Pulper Electric	01
68	Hygrometer	Hygrometer	02
69	Mechanical peeler/ Batch type for fruit and vegetable peeling	Mechanical peeler/ Batch type for fruit and vegetable peeling	01
70	Steam jacket kettle	Steam jacket kettle	01
71	Blanching Chamber	Blanching Chamber	01
72	Gloves and Head Cover	Gloves and Head Cover	06
73	S.S.Vessels with lids (20 lt capacity)	S.S.Vessels with lids (20 lt capacity)	04
74	S.S. Vessels with lids (6 lt capacity)	S.S. Vessels with lids (6 lt capacity)	06
75	S.S.Vessels with lids (10 lt capacity)	S.S.Vessels with lids (10 lt capacity)	04
76	Thermometer (Digital)	Thermometer (Digital)	02
77	Beakers	Beakers	06
78	Conical Flasks	Conical Flasks	06
79	Measuring Cylinder	Measuring Cylinder	06
80	Utensils	Utensils	05
81	Measuring Flask	Measuring Flask	06
82	Burrete with Stands	Burrete with Stands	03
83	Pipettes Of Assorted Sizes	Pipettes Of Assorted Sizes	06
84	Glass Funnels	Glass Funnels	06
85	Test Tubes with Stand	Test Tubes with Stand	04
86	Glass Rod	Glass Rod	06
87	Steel dekchi	Steel dekchi	06
88	Steel gamla	Steel gamla	06
89	Steel hata and khunti	Steel hata and khunti	06
90	Brinometer	Brinometer	02
91	Hydrometer	Hydrometer	02
92	Weighing Balance (Digital) -120 gm capacity	Weighing Balance (Digital) -120 gm capacity	02
93	Laboratory Weighing Balance (Digital) – 20 kg capacity	Laboratory Weighing Balance (Digital) – 20 kg capacity	02
94	Gas Burner With Cylinder	Gas Burner With Cylinder	01
95	Stainless Steel Mug	Stainless Steel Mug	02
96	Pilfer Proof Capping Machine	Pilfer Proof Capping Machine	01
97	Cutting Knives	Cutting Knives	06
98	Hand Peelers	Hand Peelers	06
99	Water Tank	Water Tank	01
100	Glass jar 500 g capacity	Glass jar 500 g capacity	30
101	Hot air oven (18''×18''×24'') inch size	Hot air oven (18''×18''×24'') with blower digital temp (Multispan) and time control, inside made of 304SS of 20gage, outside of MS with powder coated finish,	1

Sl No	Items Name	Specification	Qty
		ball catcher heavy door. Three side heating elements, Standard double wall febrication, Inner chamber made of highly polished stainless steel sheet, Exterior fabricated out of thick mild steel duly finished in white stoving enamel with mat finished colour combinations, Quick and uniform heating in range of 50°C to 250°C ±2°C controlled by capillary type thermostat, L-shaped thermometer is built-in type, Control panel is provided with selector switch (Maltispan) of high or low rates of power thermostat control knob and indicators for mains & thermostat.	
102	Autoclave (Dia. 18 inch x Hight 24 inch) (4KW) double coil	Autoclave (Dia. 18 inch x Hight 24 inch) (4KW) double coil, double wall, digital temperature controller, timer arrangement vertical with control cut off pressure (15-30psig) temperature indicator, inner and outer wall 304SS of 14gage , heavy lid and ring made of 304SS of 10gage, 304SS of 20gage perforated Basket with handle. It is equipped with pressure guage, steam release valve and safety valves. Pressure Controls by spring Valves, Fitted with silicon rubber gasket jointless, to work on 230 volts A./C. only. Autoclave have central out let at the bottom and also have water level indicator outside. The chamber is absolutely leak proof & can be operated at any selected point in between 5 to 30 pound per sq.inch pressure. Product have approved CE & ISO certification.	1
103	Digital pH Meter, Range : 0 to 14pH	Digital bench top pH Meter, Range : 0 to 14pH (mV upto 1999mV), Resolution : 0.01pH (±1mV), Accuracy : 0.01pH, • ±1 digit (1mV, • ±1digit), Temperature compensation : 0°C to 100°C (manual), 7 segment 3.5 Digit Green LED Display with automatic polarity and decimal indications, With one combination electrode, stand, clamp, buffers, dust cover & operation manual. Manual calibration by adjust of knob with buffer facility. The electrode is a glass body, refillable, single junction pH electrode with a DIN connector. This electrode has a single ceramic junction in the outer reference cell and the pH sensing portion is made with general purpose glass. This	2

Sl No	Items Name	Specification	Qty
		pre-amplified electrode features a built-in temperature sensor for temperature compensated measurements in a single probe design. This design consideration is ideal for laboratory and general purpose use. Supply with pH 4.01 buffer, pH 7.00 buffer pH 9.2 buffer capsule box of each pH.	
104	Physical rough balance Capacity=30 Kg	Physical rough balance, Table Top Balance Capacity: 30 Kg Readability: 1g Linearity: 2g Repeatability: 1g Power Supply: 220V + 10 V AC Pan Size: 250×330mm Frequancy: 50 Hz Rust proof Stainless Steel body and pan Battery Back Up To 60 Hours Powder Coated & Robust Structure to suit rough environmental Conditions Overload Protection Low Battery Alarm Indication	2
105	Thermometer,0deg C to 250 deg C	Thermometer,0degC to 250 deg C glass	2
106	Digital Thermometer	Temperature scale: deg C User-Selective Resolution: 1 ^{o}C Measurement Range: 0^{o}C to 250^{o}C Display: LCD	2
107	Muffle furnce, size of inner chamber (5’’x 5’’x 10’’)inch	Muffle furnce, size of inner chamber (5’’x 5’’x 10’’)inch, for 1000˚C working, For 1000˚C working 3.0KW. Outer body is of thick MS sheet painted in heat & rust proof silver ash hammertone / aluminum paint. Kanthal A-1 heating elements are used. Hot & Cold faced Kaynite Base insulating bricks provide the insulation. Temperature is controlled by digital indicator cum controller with suitable CR/AL Thermocouple. Works on 220 V, AC.	1
108	Visible Spectrophotometer	**Visible Spectrophotometer** **Specification: ~** *Optical System: Single Beam, Grating	1

Sl No	Items Name	Specification	Qty
		1200 lines / mm *Wavelength Range: 325 - 1000nm *Bandwidth: 2nm *Wavelength Accuracy: ±1nm *Wavelength Repeatability: ±0.5nm *Wavelength Setting: Auto *Photometric Accuracy: ±0.5%T *Photometric Repeatability: ±0.3%T *Photometric Range: -0.3-3A, 0-200%T *Stray Light: <=0.3%T *Stability: ±0.002A/h @500nm *Display: LCD *Detector: Silicon Photodiode *Standard Cell Holder: 4-Position 50mm Cell Holder *Light Source: Tungsten Lamp *Output: USB Port & Parallel Port (Printer) *Power Supply: AC 220V/50Hz *Dimensions (L x W x H) : 420 x 280 x 180 (mm) Supply with Glass Cells: 4 Nos, Instrument cover: 1 Nos, Operational Manual: 1Nos	
109	Hand Refractometer, with range 0-90% brix	Hand Refractometer metal made, with range 0-90% brix. **Specification:** "Washable". A special design concept for analog type measuring instruments. The readability of measured values is the "lifeline" for hand-held refractometer. Not only has the brightness of the entire field of view, but also the clarity of the boundaries represented the basis of the optical technology. Uses a smooth grip with no irregularities. The carbon-like design contributes to both cleanliness and playfulness. The measured value are automatically corrected according to the environment.	1

Sl No	Items Name	Specification	Qty
110	Hand Refractometer, with range 0-53% brix	Hand Refractometer metal made, with range 0-53% brix. **Specification:** "Washable". A special design concept for analog type measuring instruments. The readability of measured values is the "lifeline" for hand-held refractometer. Not only has the brightness of the entire field of view, but also the clarity of the boundaries represented the basis of the optical technology. Uses a smooth grip with no irregularities. The carbon-like design contributes to both cleanliness and playfulness. The measured value are automatically corrected according to the environment	1
111	Hand Refractometer, with range 30-80% brix	Hand Refractometer metal made, with range 30-80% brix. **Specification:** "Washable". A special design concept for analog type measuring instruments. The readability of measured values is the "lifeline" for hand-held refractometer. Not only has the brightness of the entire field of view, but also the clarity of the boundaries represented the basis of the optical technology. Uses a smooth grip with no irregularities. The carbon-like design contributes to both cleanliness and playfulness. The measured values are automatically corrected according to the environment.	1
112	Tray dryer, horizontal cross air flow system	Tray dryer: cross air flow system, inner 304SS AISI wall of 20 gauge & with 12 number of 304SS AISI tray of 16 gauge, Tray size : (12''x18''x1'')inch. All trays adjustable type with gap of 5'' per tray. Twelve (12) number of tray consist of 4 wire net, 4 perforated and 4 solid tray. Arrangement of tray in two column in two side of double door chamber with ball catchup system. Two side heating elements, Standard double wall fabrication, Glass wool insulation. Inner chamber made of highly polished 304 stainless steel sheet, Exterior fabricated out of thick 16-gauge mild steel duly finished in white stoving enamel with mat finished color combinations, ball catcher heavy door. Quick and uniform heating in range of 50°C to 250°C ±1°C accuracy, Control	1

Sl No	Items Name	Specification	Qty
		panel is provided with digital temp (SELEC/Multispan) and time controller (SELEC/Multispan) cum indicator with panel. 1HP Crompton brand motor with fittings of 304SS made blower type circulating fan. Heating load of 4kw. Operate on 230-volt AC Supply with extra 6 nos. wire net 304SS tray and 6 nos. perforated 304SS tray and 6 nos of 304SS solid tray.	
113	Mixer grinder	Mixer grinder,600watt. Any reputed branded made	2
114	Potato Slicer, hand operated laboratory	Potato Slicer, hand operated laboratory model With thickness adjustment system, totally made of AISI Stainless Steel 304 Quality of 20gauge fitted with iron stand.	1
115	SS stand Cutting table, size 5'x3'	304 SS solid stand Cutting table, size 5'x3', having SS304 of 14-gauge top and bottom cover, height 2.5ft, all legs made by SS tube.	1
116	Screw type juice extractor	Screw type juice extractor, made 304SS laboratory model, ½ HP motor operated Compton make, fixed in a base.	1

Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr Marks	Total OJT marks
Identify the roles and responsibilities of Food industry production Assistant	FPT/1117/OC1	20	90	0
Monitor various stages of different food processing operations in mechanized and automated production line	FPT/1117/OC2	40	160	0
Apply cleansing agent to clean machinery as per recommended sanitizers through the CIP procedure.	FPT/1117/OC3	20	90	0
Apply safe working practices at work place	FPT/1117/OC4	30	130	0
Assist to plan, organize and execute efficient production schedules within a Food Processing Unit	FPT/1117/OC5	20	90	0
Demonstrate a comprehensive effective workplace communication strategy	TXT/3723/OC5	20	90	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	FPT/1117/OC6	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0