STATE COUNCIL FOR TECHNICAL EDUCATION AND VOCATIONAL TRAINING, ODISHA

TEACHING AND EVALUATION SCHEME FOR 6th Semester (FOOD TECHNOLOGY)(wef 2020-21)

Subject Number	Subject Code	Subject	Periods/week			Evaluation Scheme			
			L	T	P	Internal Assessment/ Sessional	EndSem Exams	Exams (Hours)	Total
		Theory							
Th.1		Plant Safety Management*	4	-	-	20	80	3	100
Th.2		Meat and poultry Technology	4	-	-	20	80	3	100
Th.3		Cereal Technology	4	-	-	20	80	3	100
Th.4		Elective paper 1. Food packaging and Engineering 2. Food Safety hygiene and sanitation	4	-	-	20	80	3	100
		Total	*16*	-	-	*80*	*320*	-	*400*
		Practical							
Pr.1		Plant safety Lab*			3	25	25	3	50
Pr.2		Meat and poultry technology lab.	-	-	3	25	25	3	50
Pr.3		Cereal Technology Laboratory	-	-	3	25	50	3	75
Pr.4		Project Phase-II	-	-	9	50	100	3	150
Pr.5		Life skills	-	-	2	25	-	-	25
		Student Centred Activities(SCA)	-	-	3	-	-	-	-
				-	-	-	-	-	-
		Total	-	-	*23*	*150*	*200*	-	*350*
		Grand Total	**16**	**-**	**23**	**230**	**520**	**-**	**750**

Abbreviations: L-Lecturer, T-Tutorial, P-Practical . Each class is of minimum 55 minutes duration

Minimum Pass Mark in each Theory subject is 35% and in each Practical subject is 50% and in Aggregate is 40%

SCA shall comprise of Extension Lectures/ Personality Development/ Environmental issues /Quiz /Hobbies/ Field visits/ cultural activities/Library studies/Classes on MOOCS/SWAYAM etc. ,Seminar and SCA shall be conducted in a section.

There shall be 1 Internal Assessment done for each of the Theory Subject. Sessional Marks shall be total of the performance of individual different jobs/ experiments in a subject throughout the semester

Th1. PLANT SAFETY MANAGEMENT

Common to Chemical, Biotechnology & Food Technology

Name of the Course: Diploma in Chemical Engineering			
Course Code		Semester	6th
Total Periods	60	Examination	3 hours
Theory Periods:	4P/Week	Class Test Marks:	20
Maximum Marks:	100	End Semester Examination Marks	80

A. **Rationale**:

The present day industrial environment demands increased production, high efficiency, control of cost, stringent quality control. The production processes have become complex and capital intensive. To meet such needs of industries, the subject of safety, health and environment (S,H and E) has attained significance importance. Today safety is an integral part of any industry. The engineers are therefore expected to have firsthand knowledge of this subject.

B. OBJECTIVES:

On completion of study of Plant Safety Management the student will be able to understand

1. Concept of safety management
2. Safe working practice
3. Use of Personal Protective Equipment
4. Fire Prevention & can do Fire Fighting.
5. Understand Chemical Hazards, Mechanical Hazards, Electrical Safety, Electrical Shocks

C. Topic Wise Distribution of Periods

SL. No.	Topics	Period
1	Introduction to Industrial safety management	08
2	Safe working practice	10
3	Personal Protective Equipment	08
4	Fire Prevention & Fire Fighting	08
5	Chemical Hazards	10
6	Electrical Safety, Electrical Shocks & their prevention	10
7	Mechanical Hazards	06
	Total	60

D. COURSE CONTENT

Chapter 1.0 INTRODUCTION TO INDUSTRIAL SAFETY MANAGEMENT

1.1 Fundamental of safety
1.2 Unsafe act and unsafe condition
1.3 Integration of Safety, Health and Environment
1.4 Objective and principle of Safety Management
1.5 Terms and definition used in safety management
1.6 Classification of accidents

Chapter 2.0 SAFE WORKING PRACTICE

2.1 Good Housekeeping practice
2.2 Work place safety
2.3 Safe working environment
2.4 Spot a hazard to stop an accident
2.4 Precaution in use of ladder
2.5 Safety instruction during maintenance
2.6 Safety measures during handling of compressed system, cylinders and painting Equipments
2.7 Permit to work system

Chapter 3.0 PERSONAL PROTECTIVE EQUIPMENTS (PPE)

3.1 Requirement of personal protective equipment
3.2 Classification of Hazards
3.3 Personal protective equipments for different parts of body
3.4 Guideline to use personal protective equipment

Chapter 4.0 FIRE PREVENTION AND FIRE FIGHTING

4.1 Fundamentals of fire, elements of fire.
4.2 Terms and definition in Fire Management.
4.3 Classification of fire and fire extinguishing technique
4.4 Causes of fire and its prevention
4.5 Different types of fire extinguisher and their application
4.6 Precaution for prevention of fire

Chapter 5.0 CHEMICAL HAZARDS

5.1 Classification of Chemical Hazards
5.2 Factors influencing effects of toxic chemicals
5.3 Terms related to concentration level as per industrial hygiene norm
5.4 Control measure for Chemical hazards

Chapter 6.0 ELECTRICAL SAFETY, ELECTRICAL SHOCK AND THEIR PREVENTION

6.1 Introduction to electrical safety
6.2 Precaution and safety in use of electricity
6.3 Electrical hazards in Industrial system
6.4 Safety provision to prevent electrical hazards

Chapter 7.0 MECHANICAL HAZARDS

7.1 Sources of mechanical hazards
7.2 Machine Guard and Safety devices
7.3 Pressure hazards and pressure vessel
7.4 Safety measures in use of gas cylinders
7.5 Types of maintenance (example- Breakdown, preventive)

Syllabus Coverage up to I.A
Chapter 1,2,3

E. Book Recommended

Sr no	Name of Author	Title of Book	Name of Publisher
1	R.K. Jain, Sunil Rao	Industrial safety Health and Environment System	Khanna Publication
2	Tarafdar&Tarafdar	Industrial Safety Management	Dhanpat Ray & Sons
3	Amit Gupta	Industrial, safety and Environment	Laxmi Publication

Th2. MEAT AND POULTRY TECHNOLOGY

Theory:4 Periods per Week	Internal Assessment: 20 Marks
Total periods:60 Periods	Term End Examination: 80 Marks
Examination: 3 Hours	Total Marks: 100 Marks

A. **Rationale**:

The present day industrial environment demands increased production, high efficiency, control of cost, stringent quality control. The production processes have become complex and capital intensive. To meet such needs of industries, the subject of safety, health and environment (S,H and E) has attained significance importance. Today safety is an integral part of any industry. The engineers are therefore expected to have firsthand knowledge of this subject.

B. OBJECTIVES:

In global meat production poultry meat is taking the second place after pork. Due to its widespread availability and popularity andits mostly very competitive production cost, poultry meat has an increasing share as a raw material in processed meat. Turkey and chicken meat is very suitable for further processing purposes. Poultry meat is of higher nutritive value than that of other red meats, because of its higher protein content and better digestibility.

C. Topic Wise period distribution

Content	Periods
1.0 Introduction	05
2.0 Plant layout and slaughtering	15
3.0 Quality of fresh meat	15
4.0 Egg	10
5.0 Poultry	08
6.0 Spoilage and preservation	07
Total	60

Course Content

CHAPTER- 1 Introduction

1.1 Study the development of meat and poultry industries in india
1.2 Study their role in national economy

CHAPTER-2Plant layout and slaughtering

2.1 location, layout and structure of a slaughter house and poultry processing plant
2.2 Pre-slaughter care, anti and post martem inspection and kinds of animal/poultryslaughter
2.3Slaughtering and dressing of animal/poultry meats
2.4 Classify meat(wholesale, retail, special cuts)

CHAPTER-3 Quality of fresh meat

3.1 Factors affecting quality
3.2 Criteria to assess quality
3.3 Food value and chemical composition of meat
3.4 Bio-chemical changes in meat after slaughter leading to rigor mortis, aging, and tenderisation of meat
3.5 Meat additives and adulterants
3.6 Meat Products

CHAPTER- 4 Egg

4.1 Structure and composition
4.2 Egg quality
4.3 Egg Processing
4.4 Effect of heat on egg proteins
4.5 Egg foams
4.6 Egg Products

CHAPTER-5 Poultry

5.1Classification
5.2 Poultry Processing
5.3 Composition and nutritive value
5.4 Poultry cooking

CHAPTER -6 Spoilage and preservation

6.1 Contamination, spoilage in general
6.2 Method of preservation of meat and poultry products (low temp, high temp, curing, smoking, antibiotics, radiation etc)

Syllabus Coverage up to I.A

Chapter 1,2,3,4

E. Book Recommended			
Sr no	Name of Author	Title of Book	Name of Publisher
1	Mauntney	Poultry Products Tech	AVI
2	Lavie	Meat hand book	AVI

Th3. CEREAL TECHNOLOGY

Theory:4 Periods per Week	**Internal Assessment: 20 Marks**
Total periods:60 Periods	**Term End Examination: 80 Marks**
Examination: 3 Hours	**Total Marks: 100 Marks**

A. RATIONAL

India is a most populated country with rich in production of cereal grains. The processing of cereal grains is necessary to reach the needy. The student after completion of know details of the technology of milling , processing, production of bakery and confectionary products.

B. OBJECTIVE

It is an important and intermediate step in post-production of grain. The basic objective of milling process is to remove the husk and sometimes the bran layers, and produce an edible portion that is free of impurities and in the form of a powder with varying particle size.

C. Topic wise distribution of periods

Sl. No.	Topics	Periods
1	Introduction	05
2.	Structure	10
3.	Milling of cereal grains	10
4.	Technology of bakery products	15
5.	Technology of confectionary products	10
6.	Snack food processing	10
	TOTAL	**60**

D. COURSE CONTENT

1.0 Introduction

- 1.1 Major cereals in India
- 1.2 Nutritive value of cereals

2.0 Structure

- 2.1 Study of structure, varieties and classification of cereal grain such as rice, wheat, sorghum, ragi, corn, barley, bajra etc

3.0 Milling of cereal grains

- 3.1 Milling process such as cleaning, dehusking, polishing, grading, glazing, rice parboiling of rice milling
- 3.2 Wheat milling
- 3.3 Dry milling of corn into grits, coarse mill & flour
- 3.4 Wet milling of corn into starch, gluten, germ oil, cake, corn steep liquor, yellow & white dextrin, corn syrup, dextrose powder and high fructose corn syrup.
- 3.5 Milling of barley, malting, production of syrup, alcohol, beer etc.

4.0 Technology of bakery products

- 4.1 Function of different ingredients for production of bread, cake, biscuits
- 4.2 Mixing, dough development, sheeting, rounding, proofing, fermentation, baking of bread
- 4.3 Mixing and baking of cake
- 4.4 Mixing, sheeting, baking of biscuit

5.0 Technology of confectionery products

- 5.1 Production of confectionery products

6.0 Snacks food processing

- 6.1 Recent trends in snack food processing
- 6.2 Production of extruded cereal foods
- 6.3 Production of break fast cereal foods
- 6.4 Production of cereal based baby foods
- 6.5 processed foods, convenience foods

Syllabus Coverage up to I.A

Chapter 1,2,3,4

E BOOK Recommended			
Sl No	Author	Title	Publication
1	Kent	Tech. of cereals and cereal products	
2	Matz	Bakery technology and Engg	AVI
3	W. J. Fance	Bread making and flour confectionery	AVI

Th4(a). FOOD PACKAGING & QUALITY CONTROL

Theory:4 Periods per Week	**Internal Assessment: 20 Marks**
Total periods:60 Periods	**Term End Examination: 80 Marks**
Examination: 3 Hours	**Total Marks: 100 Marks**

A. Rationale :

On completion of the course a student should have the knowledge of importance of food hygiene and sanitation and their effects on the community. They also know the various quality control methods so that any deterioration to any food products can be detected and steps to be taken to neutralise it.

B. Objective:

Packaging has become high tech; it is no longer just a box or a bag that gets a product into a supermarket and then home onto a consumer's shelf. For most food products, the main objective of food packaging is to ensure the safety of the product and preserve it in good condition for the anticipated shelf life. The package should also minimize product losses (waste) throughout the food handling and distribution chain.

C. Topic wise Distribution

Sl. No.	Topics	Period
1	Introduction	05
2	Types of Packaging material	15
3	Importance of packaging Material	15
4	Packaging Laws	15
5	Quality Control	10
	Total	45

D. Course Contents

CHAPTER1.0 Introduction

1.0 Concept and functions of packaging.
1.2 Food Protection

CHAPTER 2.0 Types of packaging material

2.1 Packaging materials and manufacturing
2.0 Packaging materials testing materials.
2.3 Types of failures in food packaging.
2.4 Forms of packaging system

CHAPTER 3.0 Importance of packaging material

3.1Packaging and application.
3.2Packaging equipment

CHAPTER 4.0 packaging laws

4.1 Laws and regulation on food packaging.
4.2 Current and future development in food packaging.

CHAPTER 5.0 Quality Control

5.1 Quality and quality related terminology.
5.2 Importance of quality control.
5.3 Nutritional quality (composition of foods), microbial quality, sensory quality.
5.4 Evaluate sensory quality of foods, texture of foods, colour of foods and microbial quality.
5.5 Food laws, standards, regulations and specifications, HACCP regulations (Hazard analysis critical control point)
5.6 Food adulteration.
5.7 Prevention of food adulteration.
5.8 Study about misbranding.
5.9 Study the executive agencies (ISI,AGMARK (1937),FPO (1955),PFA (1954) , MPO (1974),BIS(1952),CONSUMERS PROTECTION ACT(1986),VANASAPTI CONTROL ORDER(1978),EXPORT QUALITY CONTROL AND INSPECTION ACT(1963).

Syllabus Coverage up to I.A

Chapter 1,2,3,4

E Book Recommended		
Sl. No.	Title	Authors
1	Food Analysis & Quality control	Jacob
2	Food packaging (principles & practice)	Gorden. L Robertson
3	Food Packaging, 2nd edition	Blackie academic & professional an imprint of Chaffman& Hall
4	Handbook of Aseptic processing & packaging (2nd edition)	Jarious.R.D.David,R.H. Graves

Th4(b) FOOD SAFETY,HYGINE, SANITATION

Theory:4 Periods per Week	**Internal Assessment: 20 Marks**
Total periods:60 Periods	**Term End Examination: 80 Marks**
Examination: 3 Hours	**Total Marks: 100 Marks**

Rationale :

On completion of the course a student should have the knowledge of importance of food hygiene and sanitation and their effects on the community. They also know the various quality control methods so that any deterioration to any food products can be detected and steps to be taken to neutralise it.

C Topic wise distribution

Sl. No.	Topics	Period
1	Introduction	05
2	General principles of food hygiene	15
3	Sanitation	15
4	Plant sanitation	15
5	Legal aspect of food hygiene and sanitation	10
	Total	60

D . COURSE CONTENT

Chapter-1 Introduction

1.1 Importance of Food Hygiene.
1.2 Importance of Food Sanitation.
1.3 Importance of food safety.

Chapter-2 General principles of food hygiene

2.1 Aseptic processing packaging and storage
2.2 Evaluate personal hygiene .
2.3 Health checkups, cleanliness measures and their implementation.
2.4 Food handling habits.

Chapter-3 Sanitation

3.1 Sanitation and terminology related to sanitation viz. sanitary processes, sanitary food etc..
3.2 Sanitary aspect of water supply, source and quality of water in use for industry..
3.3 Purification and disinfections of water.
3.4 Preventing contamination of portable water supply..

Chapter-4 Plant sanitation

4.1 Importance of cleaning, physical, chemical factors in cleaning, washing sanitation..
4.2 Sanitizers commonly used and their properties.
4.3 Sanitization of equipments.
4.4 Steam sanitization for closed system.

Chapter-5Legal aspect of food hygiene and sanitation

5.1 Study planning ,layout and sanitation in fruits and vegetable processing industry, dairy, meat & poultry, cereal and bakery industry.

Syllabus Coverage up to I.A

Chapter 1,2,3,4

E BOOK Recommended

Sl. No.	Authors	Title	Publishers
1	Jacob	Food Analysis & Quality control	AVI
2	Guthrie	Food Sanitation	AVI
3	Marriot	Principles of Food Sanitation	AVI

Pr1. PLANT SAFETY MANAGEMENT LABORATORY
Common to Chemical, Biotechnology & Food Technology

Practical:3 Periods per Week	Sessional: 25 marks End Examination: 25 marks
Total periods:45 Periods	Total Marks: 50 Marks

A. Rationale:

Workplace safety is very important for each and every employee in the industry because all the workers desire to work in a safe and protected atmosphere. Health and safety is the key factor for all the industries in order to promote the wellness of both employees and employers. It is a duty and moral responsibility of the company to look after the employee's protection.

Students will learn the to use basic safety equipments used in industry through practically using it in Laboratory

B. **Objectives :**

After completion of Practical of Plant Safety Management Practice, the student will be able to :

1. Use personal protective equipment properly in work place
2. Understand the understand the causes of industrial disaster
3. Can distinguigh types of fire and can extinguish small scale fire
4. Provide firstaid to accident victims

EXPERIMENT Wise Distribution of Periods

SL. No.	Experiment	Period
1	Demonstration of Personal Protective Equipment such as Nose Mask, various types of Safety goggles etc	06
2	Use of Fire extinguisher	09
3	Hazop and Hazon Study	06
4	Analysis of cases of Industrial disaster	03
5	Study on latest advances in PPE	06
6	First Aid Training	15
	Total	45

Pr.2. MEAT AND POULTRY TECHNOLOGY PRACTICAL

Practical:3 Periods per Week	Sessional: 25 marks End Examination: 25 marks
Total periods:45 Periods	Total Marks: 50 Marks

EXPERIMENT Wise Distribution of Periods

Sr No	Content	No of periods
1	Visit city slaughterhouse and city market.	4
2	slaughtering and dressing of meat poultry bud.	6
3	Identify the parts of meat / poultry	5
4	Study of processing of meat (curing)	5
5	Prepare sausage and ham	5
6	Microbial Examination and chemical composition of meat.	10
7	Asses egg quality	5
8	Prepare meat products	5

Pr3. CEREAL TECHNOLOGY LAB

Practical:3 Periods per Week	Sessional: 25 marks End Examination: 50 marks
Total periods:45 Periods	Total Marks: 75 Marks

EXPERIMENT Wise Distribution of Periods

Sr No	Content	No of period
1	Determination of physical properties of different cereal grains.	03
2	Determine moisture content of different grains.	03
3	Determination of sedimentation value of the Maida.	03
4	Determination of alcoholic acidity of the sample of the wheat flour/Maida.	03
5	To determine the water absorption capacity of the Maida.	03
6	Determination of adulterant ($NaHCO_3$) in wheat flour/Maida	03
7	Estimation of Protein content of different Cereals and Legumes.	03
8	Assessment of market samples of wheat, nice, and pulses for conforming to some PFA specifications.	03
9	Storage studies of cereal and legume grains having different moisture levels.	03
10	Determination of Gluten content in wheat flour samples.	03
11	Determination Polenske value of wheat flours.	03
12	Visit to wheat flour mill and rice mill	03
13	Visit to baking industries and corn processing plant	03
14	Preparation of expanded & puffed rice from raw and parboiled materials and assessment of quality of products including expansion in volume.	03
15	Preparation of Bread, cake, biscuits & cereal based baby & infant foods.	03

Pr4. PROJECT Phase - II

Name of the Course: Diploma in Food Technology			
Course code:		Semester	6th
Total Period:	135	Examination	3 hrs
Lab. periods:	9 P / week	Sessional	50
Maximum marks:	150	End Sem Examination	100

RATIONALE

Students' Project Work aims at developing innovative skills in the students whereby they apply the knowledge and skills gained through the course covered in many subjects and Labs, by undertaking a project. The prime emphasis of the project work is to understand and apply the basic knowledge of the principles of Food engineering and practices in real life situations, so as to participate and manage a large Food engineering projects, in future. Entire Project spreads over 5th and 6th Semester. Part of the Project covered in 5th Semester was named as *Project Phase-I* and balance portion to be covered in 6th Semester shall be named as *Project Phase-II*.

OBJECTIVES

After undergoing the Project Work, the student will be able to:

- Implement the theoretical and practical knowledge and skills gained through various subjects/courses into an application suitable for a real practical working environment, preferably in an industrial environment.
- Develop software packages or applications and implement these for the actual needs of the community/industry.
- Identify and contrast gap between the technological knowledge acquired through curriculum and the actual industrial need and to compensate it by acquiring additional knowledge as required.
- Carry out cooperative learning through synchronous guided discussions within the class in key areas, asynchronous document sharing and discussions, as well as prepare collaborative edition of the final project report.
- To achieve real life experience in Project design.
- To develop the skill of writing Project Report

Project Phase-I and Phase-II

The Project work duration covers 2 semesters(5th and 6th sem). The Grouping of students, selection of Project, assignment of Project Guide to the Group was done in the beginning of 5th semester under Project Phase-I. The students were allowed to study literature, any existing system and then define the Problem/objective of the Project. Preliminary work and Design of the system also have to be complete in Phase-I. Development may also begin in this phase. Project Milestones are to be set so that progress can be tracked .

In Phase-II Development, Testing, Documentation and Implementation have to be complete.

Project Report have to be prepared and complete in Phase-II. All Project reports should be organized uniformly in proper order, irrespective of group. Teacher Guides can make suitable alteration in the components of Task and schedule.

At the end of Project Phase-II in 6th semester there shall be one presentation by each group on whole Project work undertaken by them.

A suggestive criterion for assessing student performance by the external (preferably person from industry) and internal (teacher) examiner is given in table below:

Sl. No.	**Performance Criteria**
1.	Selection of project assignment
2.	Planning and execution of considerations
3.	Quality of performance
4.	Providing solution of the problems or production of final product
5.	Sense of responsibility
6.	Self expression/ communication/ Presentation skills
7.	Interpersonal skills/human relations
8.	Report writing skills
9	Viva voce

The teachers are free to evolve other criteria of assessment, depending upon the type of project work.

It is proposed that the institute may organize an annual exhibition of the project work done by the students and invite leading Industrial organisations to such an exhibition.

The Project Report need to be prepared as per standard format and following is the indicative format. The Teacher Guide may make minor alteration keeping the sense in tact.

Organization of Project Report

1. Cover page:
   It should contain the following (in order)
   (i) Title of the Project
   (ii) "Submitted in partial fulfillment of the requirements for the Diploma in <Branch Name>"
   (iii) By Name of the Student(s)
   (iv) Logo of the Institution
   (v) Branch Name/Depart Name and Institution Name with Address
   (vi) Academic Year
2. 1st Inner page
   Certificate:
   It should contain he following
   "This is to certify that the work in this Project Report entitled <Project Title> by

<Name of student(s)> has been carried out under my supervision in partial fulfillment of the requirements for the Diploma in <Branch Name>" during session <session > in <Branch /Department Name> of <Institute name> and this work is the original work of the above student(s).

Seal and signature of the Supervisor/Guide with date

3. 2nd Inner Page
   Acknowledgement by the Student(s)
4. Contents.
5. Chapter wise arrangement of Reports
6. Last Chapter: Conclusion
   It should contain
   (i) Conclusion
   (ii) Limitations
   (iii) Scope for further Improvement
7. References

Pr-5 LIFE SKILL

(Common to All Branches)

Practical	**2 Periods per week**	**Sessional**	**25 Marks**
Total Periods	**30 Periods**	**Total Marks**	**25 Marks**

Objective: After completion of this course the student will be able to**:**

- Develop team spirit i.e. concept of working in team
- Apply problem solving skills for a given situation
- Use effective presentation techniques
- Apply task management techniques for given projects
- Enhance leadership traits
- Resolve conflict by appropriate method
- Survive self in today's competitive world
- Face interview without fear

DETAIL CONTENTS:

1. SOCIAL SKILL

Society, Social Structure, Develop Sympathy and Empathy
Swot Analysis – Concept, How to make use of SWOT
Inter personal Relation**:** Sources of conflict, Resolution of conflict ,
Ways to enhance interpersonal relation

2. PROBLEM SOLVING

Steps of Problem solving**:**

- Identify and clarify the problem,
- Information gathering related to problem,
- Evaluate the evidence,
- Consider alternative solutions and their implications,
- Choose and implement the best alternative,
- Review
- Problem solving techniques:

1) Trial and error, 2) Brain storming, 3) Lateral (Out of Box) thinking

3. PRESENTATION SKILL

Body language , Dress like the audience
Posture, Gestures, Eye contact and facial expression. STAGE FRIGHT,
Voice and language – Volume, Pitch, Inflection, Speed, Pause
Pronunciation, Articulation, Language, Practice of speech.
Use of AV aids such as Laptop with LCD projector, white board etc.

4. GROUP DISCUSSION AND INTERVIEW TECHNIQUES

Group Discussion:
Introduction to group discussion, Ways to carry out group discussion,
Parameters— Contact, body language, analytical and logical thinking,
decision making
Interview Technique :
Dress, Posture, Gestures, facial expression, Approach
Tips for handling common questions.

5. WORKING IN TEAM

Understand and work within the dynamics of a groups.

Tips to work effectively in teams,
Establish good rapport, interest with others and work effectively with them
to meet common objectives,
Tips to provide and accept feedback in a constructive and considerate way ,
Leadership in teams, Handling frustrations in group.

6. TASK MANAGEMENT

Introduction, Task identification, Task planning ,
organizing and execution, Closing the task

PRACTICAL

List of Assignment: *(Any Five to be performed including Mock Interview)*

1. SWOT analysis:-

Analyse yourself with respect to your strength and weaknesses, opportunities and threats. Following points will be useful for doing SWOT.

a) Your past experiences,
b) Achievements,
c) Failures,
d) Feedback from others etc.

2. Solve the True life problem assigned by the Teacher.

3. Working in a Team

Form a group of 5-10 students and do a work for social cause e.g. tree plantation, blood donation, environment protection, camps on awareness like importance of cleanliness in slum area, social activities like giving cloths to poor etc.(One activity per group where Team work shall be exhibited)

4. Mock Interview

5. Discuss a topic in a group and prepare minutes of discussion.

6. Deliver a seminar for 5 minutes using presentation aids on the topic given by your teacher.

7. Task Management

Decide any task to be completed in a stipulated time with the help of teacher. Write a report considering various steps in task management (with Break up into sub tasks and their interdependencies and Time)

Note: -1. Please note that these are the suggested assignments on given contents/topic. These assignments are the guide lines to the subject teachers. However the subject teachers are free to design any assignment relevant to the topic.

Note: -2. The following Topics may be considered for Seminar/GD in addition to other Topics at the discretion of the Teacher.

(Comparison with developed countries, Occupational Safety, Health Hazard, Accident & Safety, First-Aid, Traffic Rules, Global Warming, Pollution, Environment, Labour Welfare Legislation, Labour Welfare Acts, Child Labour Issues, Gender Sensitisation ,Harassment of Women at Workplace)

METHODOLOGY:

The Teacher is to explain the concepts prescribed in the contents of the syllabus and then assign different Exercises under Practical to the students to perform.

Books Recommended:-

Sl.No	Name of Authors	Title of the Book	Name of the Publisher
01	E.H. Mc Grath , S.J	Basic Managerial Skills for	PHI

		All	
02	Lowe and Phil	Creativity and problem solving	Kogan Page (I) P Ltd
03	Adair, J	Decision making & Problem Solving	Orient Longman
04	Bishop , Sue	Develop Your Assertiveness	Kogan Page India
05	Allen Pease	Body Language	Sudha Publications Pvt. Ltd.

List of Equipment

PLANT SAFETY MANAGEMENT LABORATORY		
Sr	Name of equipment with specification	Quantity per student strength up to 60
1	Personal protective equipment for head, eye, ear protection	01 set
2	Fire extinguisher-CO_2 type, dry powder type	02 no each
3	First Aid kit	04 set

CEREAL TECHNOLOGY LABORATORY

Sl No.	List of major equipments required for Cereal Technology Lab	Specification	Quantity
1	Ribbon Blender	'U' shaped & Horizontal blender equipped	01
2	Electric deck Bakery oven	Model No .HTS90, Elect. Load 4.0Kw,inner chamber size 760*900 mm,baking capacity 60 kg	01
3	Flour mill	1.0HP Model with regulator	01
4	Dough Kneader	Capacity 10kg, Motor 1Hp –SS304	01
5	Twin drum dryer	Steam heated rollers, total drum surface area 0.125m	01
6	Namkeen Maker	Capacity 10kg/hr Motor 1Hp –SS304	01
7	PH Meter	With electrode type	01
8	Incubator	Size-450*450*450mm	01
9	Spectrophotometer	Synchronic type 104, 760 nm	01
10	Muffle Furnance	Size-200*100*300mm	01
11	Weighing Scale	Table model weight 1gm-5 gm,total weight 2kg-5kg	01

12	Kjheldal unit	Mental type	01

Meat and poultry technology LABORATORY

Sl No.	List of major equipments required for Meat and poultry technology Lab	Specification	Quantity
1	Weighing Scale	Table model weight 1gm-5 gm,total weight 2kg-5kg	01
2	microoven	Capacity 2-5 kg	
3	PH Meter	With electrode type	01
4	Incubator	Size-450*450*450mm	01
5	Deep freezer	Capacity 200ltrs,Blue Star	01
6	Refrigerator	Capacity 400lit	01
7	Electronic Balance	Code XP2U,Readiability 2g/10g	01
8	Homogeniser	1.0HP Model with regulator	01
9	Autoclave	Vertical ,SS type	01
10	Laminar flow	4"*2"*2"	01
11	Hot air oven	18*18*18	01