

LEARNING OUTCOME BASED VOCATIONAL CURRICULUM

Job role: Craft Baker

(Qualification Pack: FIC/Q5002)

SECTOR: Food Processing

Classes 11 and 12

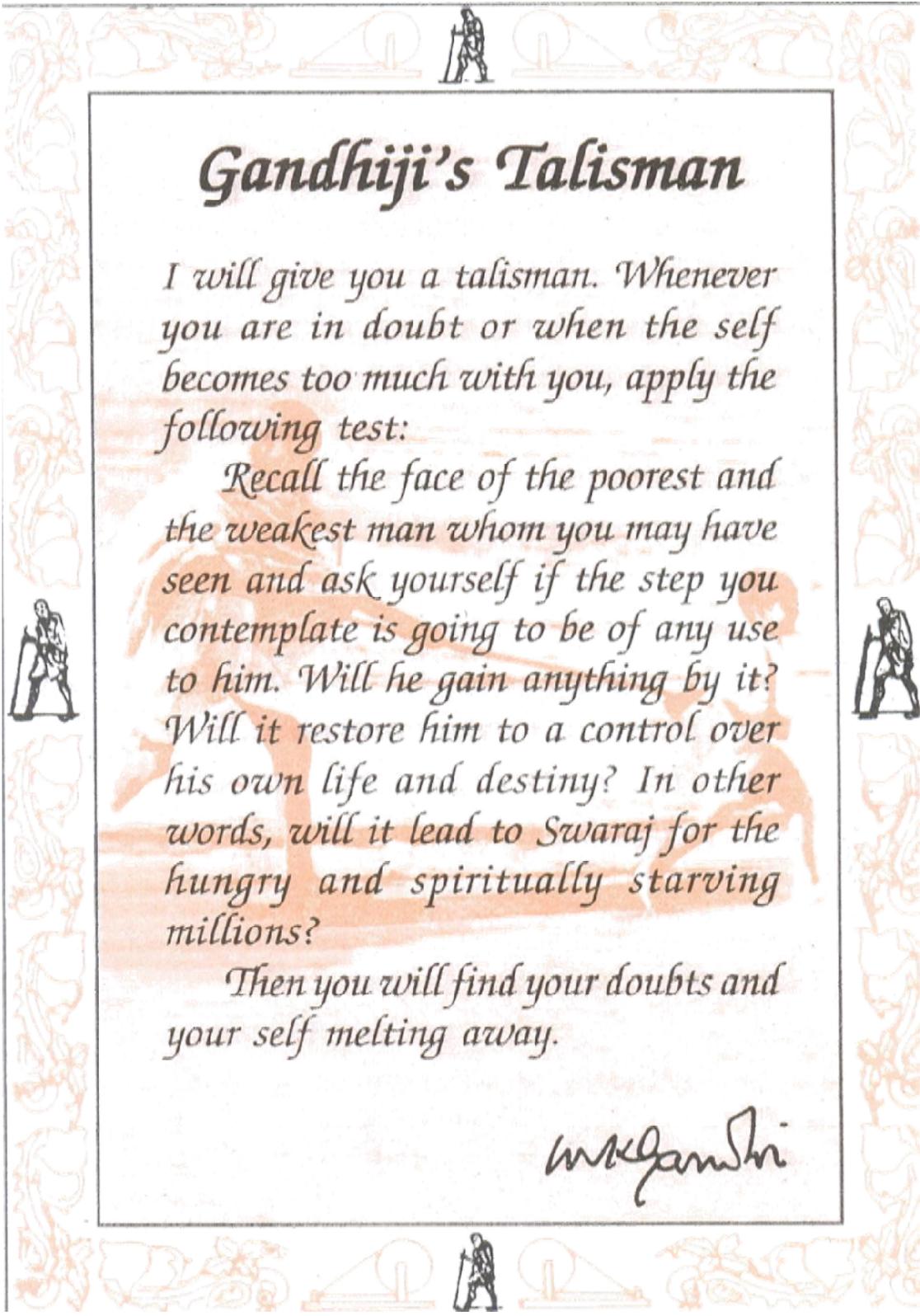


PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION

(a constituent unit of NCERT, under MHRD, Government of India)

Shyamla Hills, Bhopal- 462 013, M.P., India

<http://www.psscive.ac.in>



Gandhiji's Talisman

I will give you a talisman. Whenever you are in doubt or when the self becomes too much with you, apply the following test:

Recall the face of the poorest and the weakest man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it? Will it restore him to a control over his own life and destiny? In other words, will it lead to Swaraj for the hungry and spiritually starving millions?

Then you will find your doubts and your self melting away.

M.K. Gandhi

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LEARNING OUTCOME BASED VOCATIONAL

CURRICULUM

Food processing-Craft Baker

February, 2020

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FOREWORD

The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), a constituent unit of National Council of Educational Research and Training (NCERT) is spearheading the efforts of developing learning outcome based vocational curriculum and courseware aimed at integrating both vocational and general qualifications to open pathways of career progression for students. It is a part of Vocationalisation of Education under *Samagra Shiksha*. The PSS Central Institute of Vocational Education (PSSCIVE) is developing curricula under the project approved by the Project Approval Board (PAB) of *Samagra Shiksha* of Ministry of Human Resource Development (MHRD), Govt. of India. The main purpose of the learning outcome based vocational curriculum is to bring about improvement in teaching-learning process and working competencies through learning outcomes embedded in the vocational subject.

It is a matter of great pleasure to introduce this learning outcome based vocational curriculum as part of the vocational training package for the job role of **Craft Baker (FIC/Q5002)**. The curriculum has been developed for the senior secondary students of vocational education and is aligned to the National Occupation Standards (NOSs) of a job role identified and approved under the National Skill Qualification Framework (NSQF).

The curriculum aims to provide children with employability and vocational skills to support occupational mobility and lifelong learning. It will help them to acquire specific occupational skills that meet employers' immediate needs. The teaching process is to be performed through the interactive sessions in classrooms, practical activities in laboratories and workshops, projects, field visits, and professional experiences.

The curriculum has been developed and reviewed by a group of experts and their contributions are greatly acknowledged. The utility of the curriculum will be adjudged by the qualitative improvement that it brings about in teaching-learning. The feedback and suggestions on the content by the teachers and other stakeholders will be of immense value to us in bringing about further improvement in this document.

HRUSHIKESH SENAPATY

Director

National Council of Education Research and Training

PREFACE

India today stands poised at a very exciting juncture in its saga. The potential for achieving inclusive growth are immense and the possibilities are equally exciting. The world is looking at us to deliver sustainable growth and progress. To meet the growing expectations, India will largely depend upon its young workforce. The much-discussed demographic dividend will bring sustaining benefits only if this young workforce is skilled and its potential is channelized in the right direction.

In order to fulfil the growing aspirations of our youth and the demand of skilled human resource, the Ministry of Human Resource Development (MHRD), Government of India introduced the revised Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education in 2012 with the aim to provide for the diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provide an alternative for those pursuing higher education. The scheme was subsumed in *Samagra Shiksha* in 2018 along with other schemes of school education. For spearheading the Vocationalisation Education, the PSS Central Institute of Vocational Education (PSSCIVE) was entrusted the responsibility to develop learning outcome based vocational curriculum, student workbooks, teacher handbooks and e-learning materials for the job roles in various sectors, with growth potential for employment.

The PSSCIVE firmly believes that the vocationalisation of education in the nation needs to be established on a strong footing of philosophical, cultural and sociological traditions and it should aptly address the needs and aspirations of the students besides meeting the skill demands of the industry. The curriculum, therefore, aims at developing the desired professional, managerial and communication skills to fulfil the needs of the society and the world of work. In order to honour its commitment to the nation, the PSSCIVE has initiated the work on developing learning outcome based vocational curriculum with the involvement of faculty members and leading experts in respective fields. It is being done through the concerted efforts of leading academicians, professionals, policy makers, partner institutions, Vocational Education and Training experts, industry representatives, and teachers. The expert group through a series of consultations, working group meetings and use of reference materials develops a National Curriculum. Currently, the Institute is working on developing curricula and courseware for over 50 job roles in various sectors, besides the curricula developed for 100 job roles.

We extend our gratitude to all the contributors for selflessly sharing their precious knowledge, acclaimed expertise, valuable time and positively responding to our request for development of curriculum. We are grateful to MHRD and NCERT for the financial support and cooperation in realising the objective of providing learning outcome based vocational curriculum and courseware to the States and other stakeholders under the PAB (Project Approval Board) approved project of *Samagra Shiksha* of Ministry of Human Resource Development (MHRD), Government of India.

Finally, for transforming the proposed curriculum design into a vibrant reality of implementation, all the institutions involved in the delivery system shall have to come together with a firm commitment and they should secure optimal community support. The success of this curriculum depends upon its effective implementation and it is expected that the managers of vocational education and training system, including subject teachers will make efforts to create better facilities, develop linkages with the world of work and foster a conducive environment as per the content of the curriculum document.

The PSSCIVE, Bhopal remains committed in bringing about reforms in the vocational education and training system through the learner-centric curricula and courseware. We hope that this document will prove useful in turning out more competent Indian workforce for the 21st Century.

RAJESH P. KHAMBAYAT

Joint Director

PSS Central Institute of Vocational Education

ACKNOWLEDGEMENTS

On behalf of the team at the PSS Central Institute of Vocational Education (PSSCIVE) we are grateful to the members of the Project Approval Board (PAB) of *Samagra Shiksha* and the officials of the Ministry of Human Resource Development (MHRD), Government of India for the financial support to the project for development of curricula.

We are grateful to the Director, National Council of Educational Research & Training (NCERT) for his support and guidance. We also acknowledge the contributions of our colleagues at the Technical Support Group of Samagra Shiksha, MHRD, National Skill Development Agency (NSDA) and National Skill Development Corporation (NSDC) and **Food Industry Capacity & Skill Initiative (FICSI)** for their academic support and cooperation.

We are grateful to the expert contributors for their earnest effort and contributions in the development of this learning outcome based vocational curriculum. Their names are acknowledged in the list of contributors.

We are also grateful to Dr. Kuldeep Singh, Course Coordinator, Department of Agriculture and Animal Husbandry, PSSCIVE, Bhopal for his contributions.

The contributions made by Dr. Vinay Swarup Mehrotra, Professor and Head, Department of Agriculture and Animal Husbandry and Curriculum Development and Evaluation Centre (CDEC), Dr. Vipin Kumar Jain, Associate Professor and Head, Department of Humanities, Science, Education and Research and Dr. Dipak D. Shudhalwar, Associate Professor and Head, Department of Engineering and Technology, PSSCIVE in development of the curriculum for the employability skills are duly acknowledged.

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PSSCIVE Team

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1. COURSE OVERVIEW

Food Processing- Craft Baker

A Baking Technician / Operative is responsible for baking of products, maintaining their consistency and quality, while meeting defined SOPs and leveraging his/ her skill to operate ovens in synchronization with proof box/ rest of the plant/ unit.

A Baking Technician / Operative must have the ability to plan, organize, prioritize, calculate and handle pressure. S/he must possess reading, writing and communication skills. In addition, the individual must have stamina to be able to stand for long hours, have personal and professional hygiene and an understanding of food safety standards and requirements.

Course outcomes:

On completion of the course, students should be able to:

- Apply effective oral and written communication skills to interact with people and customers;
- Identify the principal components of a computer system;
- Demonstrate the basic skills of using computer;
- Demonstrate self-management skills;
- Demonstrate the ability to provide a self-analysis of entrepreneurial skills and abilities;
- Demonstrate the knowledge of the importance of green skills in meeting the challenges of sustainable development and environment protection
- Identify and control hazards in the workplace that pose a danger or threat
- Do Preparation and maintain work area and equipment;
- Prepare baked products (breads, puffs, cookies, cakes/ pastries, desserts, specialty baked products,etc.) in artisan bakeries and patisseries.;
- Demonstrate packaging of bakery products;
- Apply documentation and record keeping;
- Understand food quality, GMP and HACCP for bakery products

Course requirements: The learner should have the basic knowledge of science.

Course Level: This is a beginner level course. On completion of this course, a student can take up an Intermediate level course for a job role in bakery sector.

Course Duration: 600 hrs

Class 11:	300 hrs
Class 12:	300 hrs
Total :	600 hrs

2. SCHEME OF UNITS AND ASSESSMENT

This course is a planned sequence of instructions consisting of Units meant for developing employability and vocational competencies of students of Class 11 and 12, opting for vocational subject along with general education subjects. The unit-wise distribution of hours and marks for Class 11 is as follows:

CLASS 11			
	Units	No. of Hours for Theory and Practical 300	Max. Marks for Theory and Practical 100
Part A	Employability Skills		
	Unit 1: Communication Skills – III	25	10
	Unit 2: Self-management Skills – III	25	
	Unit 3: Information and Communication Technology Skills – III	20	
	Unit 4: Entrepreneurial Skills – III	25	
	Unit 5: Green Skills – III	15	
	Total	110	10
Part B	Vocational Skills		
	Unit 1: Artisan Bakery and Patisserie	19	40
	Unit 2: Preparing and Maintaining Work Area and Machineries	19	
	Unit 3: Pre- preparation and Baking the Products in the Oven	44	
	Unit4: Bread Making Process	51	
	Unit 5: Process of Baking	32	
		165	40
Part C	Practical Work		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
	Total	10	35
Part D	Project Work/Field Visit		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
	Total	15	15
	Grand Total	300	100

The unit-wise distribution of hours and marks for Class 12 is as follows:

CLASS 12			
	Units	No. of Hours for Theory and Practical 300	Max. Marks for Theory and Practical 100
Part A	Employability Skills		
	Unit 1: Communication Skills – IV	25	10
	Unit 2: Self-management Skills – IV	25	
	Unit 3: Information and Communication Technology Skills – IV	20	
	Unit 4: Entrepreneurial Skills – IV	25	
	Unit 5: Green Skills – IV	15	
	Total	110	10
Part B	Vocational Skills		
	Unit 1: Food Safety Standards, Hygiene and Sanitation	30	
	Unit 2 : Pastries, Cakes, Chocolates and Desserts	40	40
	Unit 3: Pastry Craft	60	
	UNIT4: Documentation and Record Keeping	35	
	Total	165	30
Part C	Practical Work		
	Practical Examination	06	15
	Written Test	01	10
	Viva Voce	03	10
	Total	10	35
Part D	Project Work/Field Visit		
	Practical File/Student Portfolio	10	10
	Viva Voce	05	05
	Total	15	15
	Grand Total	300	100

3. TEACHING/TRAINING ACTIVITIES

The teaching and training activities have to be conducted in classroom, laboratory/ workshops and field visits. Students should be taken to field visits for interaction with experts and to expose them to the various tools, equipment, materials, procedures and operations in the workplace. Special emphasis should be laid on the occupational safety, health and hygiene during the training and field visits.

CLASSROOM ACTIVITIES

Classroom activities are an integral part of this course and interactive lecture sessions, followed by discussions should be conducted by trained vocational teachers. Vocational teachers should make effective use of a variety of instructional aids, such as audio-video materials, colour slides, charts, diagrams, models, exhibits, hand-outs, online teaching materials, etc. to transmit knowledge and impart training to the students.

PRACTICAL WORK IN LABORATORY/WORKSHOP

Practical work may include but not limited to hands-on-training, simulated training, role play, case based studies, exercises, etc. Equipment and supplies should be provided to enhance hands-on learning experience of students. Only trained personnel should teach specialized techniques. A training plan that reflects tools, equipment, materials, skills and activities to be performed by the students should be submitted by the vocational teacher to the Head of the Institution.

FIELD VISITS/ EDUCATIONAL TOUR

In field visits, children will go outside the classroom to obtain specific information from experts or to make observations of the activities. A checklist of observations to be made by the students during the field visits should be developed by the Vocational Teachers for systematic collection of information by the students on the various aspects. Principals and Teachers should identify the different opportunities for field visits within a short distance from the school and make necessary arrangements for the visits. At least three field visits should be conducted in a year.

4. ASSESMENT AND CERTIFICATION

Upon successful completion of the course by the candidate, the Central/ State Examination Board for Secondary Education and the respective Sector Skill Council will certify the competencies.

The National Skills Qualifications Framework (NSQF) is based on outcomes referenced to the National Occupation Standards (NOSs), rather than inputs. The NSQF level descriptors, which are the learning outcomes for each level, include the process, professional knowledge, professional skills, core skills and responsibility. The assessment is to be undertaken to verify that individuals have the knowledge and skills needed to perform a particular job and that the learning programme undertaken has delivered education at a given standard. It should be closely linked to certification so that the individual and the employer could come to know the competencies acquired through the vocational subject or course. The assessment should be reliable, valid, flexible, convenient, cost effective and above all it should be fair and transparent. Standardized assessment tools should be used for assessment of knowledge of students. Necessary arrangements should be made for using technology in assessment of students.

KNOWLEDGE ASSESSMENT (THEORY)

Knowledge Assessment should include two components: one comprising of internal assessment and second an external examination, including theory examination to be conducted by the Board. The assessment tools shall contain components for testing the knowledge and application of knowledge. The knowledge test can be objective paper based test or short structured questions based on the content of the curriculum.

WRITTEN TEST

It allows candidates to demonstrate that they have the knowledge and understanding of a given topic. Theory question paper for the vocational subject should be prepared by the subject experts comprising group of experts of academicians, experts from existing vocational subject experts/teachers, subject experts from university/colleges or industry. The respective Sector Skill Council should be consulted by the Central/State Board for preparing the panel of experts for question paper setting and conducting the examinations.

The blue print for the question paper may be as follows:

Duration: 3hrs

S. No.	Typology of Question	No. of Questions			Marks
		Very Short Answer (1 mark)	Short Answer (2 Marks)	Long Answer (3 Marks)	
1.	Remembering – (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories; identify, define or recite, information)	2	1	2	10
2.	Understanding – (Comprehension – to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	1	2	2	11
3.	Application – (Use abstract information in concrete situation, to apply knowledge to new situations: Use given content to interpret a situation, provide an example, or solve a problem)	0	1	1	05
4.	High Order Thinking Skills – (Analysis & Synthesis – Classify, compare, contrast, or differentiate between different pieces of information; Organize and/ or integrate unique pieces of information from a variety of sources)	0	1	0	02
5.	Evaluation – (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	0	1	0	02
	Total	3x1=3	6x2=12	5x3=15	30 (14 Question)

SKILL ASSESSMENT (PRACTICAL)

Assessment of skills by the students should be done by the assessors/examiners on the basis of practical demonstration of skills by the candidate, using a competency checklist. The competency checklist should be developed as per the National Occupation Standards (NOSs) given in the Qualification Pack for the Job Role to bring about necessary consistency in the quality of assessment across different sectors and Institutions. The student has to demonstrate

competency against the performance criteria defined in the National Occupation Standards and the assessment will indicate that they are 'competent', or are 'not yet competent'. The assessors assessing the skills of the students should possess a current experience in the industry and should have undergone an effective training in assessment principles and practices. The Sector Skill Councils should ensure that the assessors are provided with the training on the assessment of competencies.

Practical examination allows candidates to demonstrate that they have the knowledge and understanding of performing a task. This will include hands-on practical exam and viva voce. For practical, there should be a team of two evaluators – the subject teacher and the expert from the relevant industry certified by the Board or concerned Sector Skill Council. The same team of examiners will conduct the viva voce.

Project Work (individual or group project) is a great way to assess the practical skills on ascertain time period or timeline. Project work should be given on the basis of the capability of the individual to perform the tasks or activities involved in the project. Projects should be discussed in the class and the teacher should periodically monitor the progress of the project and provide feedback for improvement and innovation. Field visits should be organized as part of the project work. Field visits can be followed by a small-group work/project work. When the class returns from the field visit, each group might be asked to use the information that they have gathered to prepare presentations or reports of their observations. Project work should be assessed on the basis of practical file or student portfolio.

Student Portfolio is a compilation of documents that supports the candidate's claim of competence. Documents may include reports, articles, photos of products prepared by students in relation to the unit of competency.

Viva voce allows candidates to demonstrate communication skills and content knowledge. Audio or video recording can be done at the time of viva voce. The number of external examiners would be decided as per the existing norms of the Board and these norms should be suitably adopted/adapted as per the specific requirements of the vocational subject. Viva voce should also be conducted to obtain feedback on the student's experiences and learning during the project work/field visits.

5. UNIT CONTENTS

CLASS 11

Part A: Employability Skills

S. No.	Units	Duration (Hrs)
1.	Communication Skills –III	25
2.	Self-management Skills –III	25
3.	Information and Communication Technology Skills-III	20
4.	Entrepreneurship Development – III	25
5.	Green Skills – III	15
Total		110

Unit 1: Communication Skill – III			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Demonstrate knowledge of various methods of communication	1. Methods of communication - Verbal - Non-verbal - Visual	1. Writing pros and cons of written, verbal and non-verbal communication 2. Listing do's and don'ts for avoiding common body language mistakes	10
2. Identify specific communication styles	1. Communication styles-assertive, aggressive, passive-aggressive, submissive, etc.	1. Observing and sharing communication styles of friends, teachers and family members and adapting the best practices 2. Role plays on communication styles.	05
3. Demonstrate basic writing skills	1. Writing skills to the following: • Sentence • Phrase • Kinds of Sentences • Parts of Sentence • Parts of Speech • Articles • Construction of a Paragraph	1. Demonstration and practice of writing sentences and paragraphs on topics related to the subject	10
Total			25

Unit 2: Self-management - III			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Demonstrate impressive appearance and grooming	<ol style="list-style-type: none"> 1. Describe the importance of dressing appropriately, looking decent and positive body language 2. Describe the term grooming 3. Prepare a personal grooming checklist 4. Describe the techniques of self- exploration 	<ol style="list-style-type: none"> 1. Demonstration of impressive appearance and groomed personality 2. Demonstration of the ability to self- explore 	07
2. Demonstrate team work skills	<ol style="list-style-type: none"> 1. Describe the important factors that influence in team building 2. Describe factors influencing team work 	<ol style="list-style-type: none"> 1. Group discussion on qualities of a good team 2. Group discussion on strategies that are adopted for team building and team work 	08
3. Apply time management strategies and techniques	<ol style="list-style-type: none"> 1. Meaning and importance of time management – setting and prioritizing goals, creating a schedule, making lists of tasks, balancing work and leisure, using different optimization tools to break large tasks into smaller tasks. 	<ol style="list-style-type: none"> 1. Game on time management 2. Checklist preparation 3. To-do-list preparation 	10
Total			25

Unit 3: Information and Communication Technology - III			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Create a document on word processor	<ol style="list-style-type: none"> 1. Introduction to word processing. 2. Software packages for word processing. 3. Opening and exiting the word processor. 4. Creating a document 	<ol style="list-style-type: none"> 1. Demonstration and practice of the following: <ul style="list-style-type: none"> • Listing the features of word processing • Listing the software packages for word processing • Opening and exit the word processor • Creating a document 	10
2. Edit, save and print a	<ol style="list-style-type: none"> 1. Editing text 2. Wrapping and aligning 	<ol style="list-style-type: none"> 1. Demonstration and practising the following: 	10

document in word processor	<p>the text</p> <ol style="list-style-type: none"> 3. Font size, type and face. 4. Header and Footer 5. Auto correct 6. Numbering and bullet 7. Creating table 8. Find and replace 9. Page numbering. 10. Printing document. 11. Saving a document in various formats. 	<ul style="list-style-type: none"> • Editing the text • Word wrapping and alignment • Changing font type, size and face • Inserting header and footer • Removing header and footer <ol style="list-style-type: none"> 2. Using autocorrect option 3. Insert page numbers and bullet 4. Save and print a document 	
Total			20

Unit 4: Entrepreneurship Development – III			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Describe the significance of entrepreneurial values and attitude	<ol style="list-style-type: none"> 1. Values in general and entrepreneurial values 2. Entrepreneurial value orientation with respect to innovativeness, independence, outstanding performance and respect for work 	<ol style="list-style-type: none"> 1. Listing of entrepreneurial values by the students. 2. Group work on identification of entrepreneurial values and their roles after listing or reading 2-3 stories of successful entrepreneur 3. Exhibiting entrepreneurial values in Ice breaking, rapport building, group work and home assignments 	10
2. Demonstrate the knowledge of attitudinal changes required to become an entrepreneur	<ol style="list-style-type: none"> 1. Attitudes in general and entrepreneurial attitudes 2. Using imagination/ intuition 3. Tendency to take moderate risk 4. Enjoying freedom of expression and action 5. Looking for economic opportunities 6. Believing that we can change the environment 7. Analyzing situation and planning action 8. Involving in activity 	<ol style="list-style-type: none"> 1. Preparing a list of factors that influence attitude in general and entrepreneurial attitude 2. Demonstrating and identifying own entrepreneurial attitudes during the following micro lab activities like thematic appreciation test 3. Preparing a short write-up on "who am I" 4. Take up a product and suggest how its features can be improved 	15

		5. Group activity for suggesting brand names, etc.	
Total			25

Unit 5: Green Skills – III			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Describe importance of main sector of green economy	1. Main sectors of green economy- E-waste management, green transportation, renewal energy, green construction, water management 2. Policy initiatives for greening economy in India	1. Preparing a poster on any one of the sectors of green economy 2. Writing a two-page essay on important initiatives taken in India for promoting green economy	08
2. Describe the major green Sectors/Areas and the role of various stakeholder in green economy	1. Stakeholders in green economy 2. Role of government and private agencies in greening cities, buildings, tourism, industry, transport, renewable energy, waste management, agriculture, water, forests and fisheries	1. Preparing posters on green Sectors/Areas: cities, buildings, tourism, industry, transport, renewable energy, waste management, agriculture, water, forests and fisheries	07
Total			15

Part B: Vocational Skills

S.No.	Units	Duration (Hrs)
1.	Artisan Bakery and Patisserie	19
2.	Preparing and Maintaining Work Area and Machineries	19
3.	Pre- preparation and Baking the Products in the Oven	44
4.	Bread Making Process	51
5.	Process of Baking (pastry dough) in Artisan Bakeries and Patisseries	32
	Total	165

UNIT 1: ARTISAN BAKERY AND PATISSERIE			
Learning Outcome	Theory (07 Hrs)	Practical (12 Hrs)	Duration (19 Hrs)
1. Describe the	1. Artisan bakeries and Patisseries 2. Categories of bakery and pastry	1. Draw a chart depicting	07

importance of Bakery sector	<p>products:</p> <ul style="list-style-type: none"> • Bakery • Pastry • Chocolates • Cakes <p>3. Roles and responsibilities of Craft Baker</p>	the categories of patisseries products.	
2. Identify the equipment used for making bakery products	1. Equipment used in artisan bakeries and patisseries.	1. Identification of equipment through physical and audio visual aids.	06
3. Identify and utilize the raw material (ingredients) used in bakery	<p>1. Raw materials (ingredients) used in artisan bakeries and patisseries.</p> <p>2. Categories of ingredients used in bakery: (flour, sugar, fat, milk, shortening, leavening agents, starters) and their functions).</p>	1. Identification of various ingredients and starters used in artisan bakeries and patisseries by sensory evaluation (taste, touch, smell and sight).	06
Total			19

UNIT 2: PREPARATION AND MAINTENANCE OF WORK AREA AND MACHINERIES			
Learning Outcome	Theory (07 hrs)	Practical (12 hrs)	Duration (19 hrs)
1. Describe the importance of personal hygiene and sanitation of the Craft Baker	<p>1. Personal hygiene and sanitation</p> <p>2. Food safety standards and regulations</p>	<p>1. Demonstration of how to wear uniform, including chef coat, apron, gloves, hair caps, socks, shoes, etc.</p> <p>2. Demonstration of Hand washing technique</p> <p>3. Video show on food safety practices</p>	06
2. Describe the importance of workplace hygiene and sanitation	<p>1. Cleaning agents and equipment:</p> <ul style="list-style-type: none"> • Common detergents and sanitizers • Procedure to disinfect tools and equipment <p>2. Sections of working units and</p>	<p>1. Full day visit to a bakery unit/ plant to understand:</p> <ul style="list-style-type: none"> • Cleaning, maintaining and handling bakery and patisseries 	07

	<p>their functioning</p> <ol style="list-style-type: none"> Hygiene and sanitation standards in processing unit Standard Operating Procedures (SOPs) for disposal of waste material. Cleaning and maintaining machinery and equipment 	<p>equipment and tools.</p> <ul style="list-style-type: none"> Hygiene and sanitation standards in processing unit Functioning of working equipment (e.g. Oven, planetary dough mixer etc.) 	
3. Prepare work area and equipment/ machinery for baking in oven	<ol style="list-style-type: none"> Preparing the work area Getting ready machines and tools for production Unit operations 	<ol style="list-style-type: none"> Demonstrate preparation of the machines required for production. Demonstrate the unit operations. 	06
Total			19

UNIT 3: PRE PREPARATION AND BAKING THE PRODUCTS IN THE OVEN			
Learning Outcome	Theory (15 hrs)	Practical (29 hrs)	Duration (44 hrs)
1. Utilize oven for baking products	<ol style="list-style-type: none"> Types of oven, oven baking process and maintenance Fuels used to fire the oven Basic temperature, conversion and calculating time in baking (As per size and volume) 	<ol style="list-style-type: none"> Baking product with and without pre heating and at different temperatures. 	6
2. Perform prerequisite tasks required to prepare the bakery products	<ol style="list-style-type: none"> Work plan <ul style="list-style-type: none"> Baker's math vis a vis raw material quantities, temperatures, and weight conversions. Pre - production Sequence <ul style="list-style-type: none"> getting ready with the Mise-en-place for the recipe cleaning the machinery setting the oven temperature 	<ol style="list-style-type: none"> Scale the raw material as per the recipe provided. Depict the flow chart of process of baking 	06

<p>3. Perform the important steps involved before baking the final product in the oven</p>	<ol style="list-style-type: none"> 1. Bread making steps and methods 2. Mixing process in various products 3. Types of dough (lean dough, rich dough, laminated dough, sweet dough, short crust, pie dough etc.) 4. Preparation of products out of each type of dough 5. Handling common faults in bread due to: <ul style="list-style-type: none"> • measurement of ingredients • temperature, (overheating and under-heating) • time (over baking and under-baking) • Proofing (under proofing and over proofing) • Faults arising due to the above factors • Preventing microbial infection in breads and pastries 	<ol style="list-style-type: none"> 1. Mix the ingredients as per the ingredients, time and speed mentioned in the recipe 2. Identify the following steps to achieve the final baked bread: <ul style="list-style-type: none"> • dough making • resting • shaping • panning • proofing • baking 3. Use of AV aids for demonstration of steps. 	<p>32</p>
<p>Total</p>			<p>44</p>

<p>UNIT 4 :BREAD MAKING PROCESS</p>			
<p>Learning Outcome</p>	<p>Theory (11hrs)</p>	<p>Practical (40 hrs)</p>	<p>Duration (51hrs)</p>
<p>1. Prepare the various types of breads using different methods</p>	<ol style="list-style-type: none"> 1. Ingredients and their role in bread making 2. Bread Making methods <ul style="list-style-type: none"> • straight dough method • no time method • salt delay method • ferment and dough method 3. Types of Bread dough: <ul style="list-style-type: none"> • sliced bread/ breakfast bread including white, brown/ whole wheat, 	<ol style="list-style-type: none"> 1. Identify different ingredients used in baking 2. Different bread making methods: <ul style="list-style-type: none"> • straight dough method • no time method • salt delay method • ferment and dough method 	<p>17</p>

	multigrain <ul style="list-style-type: none"> • sour dough (leaven/ mother/ starter, biga) 4. Types of bread: <ul style="list-style-type: none"> • ciabatta • french Baguette • focaccia • pita and khubus • lavash • pizza base • sour dough breads- hard roll, rye 		34
Total			51

UNIT 5: PROCESS OF BAKING (PASTRY DOUGH)			
(Eggless versions to be included in the training sessions wherever possible)			
Learning Outcome	Theory (12 hrs)	Practical (20 hrs)	Duration (32hrs)
1. Describe and prepare the Pastry products	1. Baked Pastry products 2. Basic ingredients of Pastry Products 3. Types of Baked pastry <ul style="list-style-type: none"> • short crust pastry cookies/ tarts/ flan/pie • laminated pastry puff Pastry- vol-en-vent/ patties danish pastry/ croissant • choux Paste profitroles and eclairs 4. Faults in Pastries <ul style="list-style-type: none"> • short crust- Under baked/over baked/ mis calculation of ingredients • laminated Pastry- Under laminate/ over laminate/ Under or over proving/ mis-calculation of ingredients • choux Paste- under cooking/ under mixing/ over and under baking 	1. Prepare basic <ul style="list-style-type: none"> • Pie/ Tart • Choux pastry • Puff pastry • Éclair and profit role 	20

2. Describe and prepare basic cakes	<ol style="list-style-type: none"> 1. Sponge cakes (Genoise cake, Fatless sponge, swiss roll sponge and eggless sponge) 2. Cream cakes 3. Tea cake/ pound cake (Banana bread, chocolate pound cake, fruit cake, muffins and cupcakes) 4. Faults in cakes: <ul style="list-style-type: none"> • Sunken cake • Over risen cake • Lack of volume 	<ol style="list-style-type: none"> 1. Preparation of basic cakes <ul style="list-style-type: none"> • sponge cakes • genoise cake • tea cake/ pound cake • banana bread, chocolate pound cake, fruit cake, muffins and cupcakes 	12
Total			32

CLASS 12

Part A: Employability Skills

S.No.	Units	Duration (Hrs)
1.	Communication Skills –IV	25
2.	Self-management Skills –IV	25
3.	Information and Communication Technology Skills-IV	20
4.	Entrepreneurship Skills – IV	25
5.	Green Skills – IV	15
Total		110

Unit 1: Communication Skills – IV			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Describe the steps to active listening skills	<ol style="list-style-type: none"> 1. Importance of active listening at workplace 2. Steps to active listening 	<ol style="list-style-type: none"> 1. Demonstration of the key aspects of becoming active listener 2. Preparing posters of steps for active listening 	15
2. Demonstrate basic writing skills	<ol style="list-style-type: none"> 2. Writing skills to the following: <ul style="list-style-type: none"> • Sentence • Phrase • Kinds of Sentences • Parts of Sentence • Parts of Speech • Articles 	<ol style="list-style-type: none"> 1. Demonstration and practice of writing sentences and paragraphs on topics related to the subject 	10

Unit 1: Communication Skills – IV			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
	<ul style="list-style-type: none"> Construction of a Paragraph 		
Total			25

Unit 2: Self-management Skills – IV			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Describe the various factors influencing self-motivation	<ol style="list-style-type: none"> Finding and listing motives (needs and desires); Finding sources of motivation and inspiration (music, books, activities); think expansive thoughts; living fully in the present moment; Dreaming big 	<ol style="list-style-type: none"> Group discussion on identifying needs and desire Discussion on sources of motivation and inspiration 	10
1. Describe the basic personality traits, types and disorders	<ol style="list-style-type: none"> Describe the meaning of personality Describe how personality influence others Describe basic personality traits Describe common personality disorders- paranoid, antisocial, schizoid, borderline, narcissistic, avoidant, dependent and obsessive 	<ol style="list-style-type: none"> Demonstrate the knowledge of different personality types 	15
Total			25

Unit 3: Information and Communication Technology Skills – IV			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Perform tabulation using spreadsheet application	<ol style="list-style-type: none"> Introduction to spreadsheet application Spreadsheet applications Creating a new worksheet Opening workbook and entering text Resizing fonts and styles Copying and moving Filter and sorting Formulas and functions Password protection. Printing a spreadsheet. Saving a spreadsheet in 	<ol style="list-style-type: none"> Demonstration and practice on the following: <ul style="list-style-type: none"> Introduction to the spreadsheet application Listing the spreadsheet applications Creating a new worksheet Opening the workbook and 	10

Unit 3: Information and Communication Technology Skills – IV			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
	various formats.	enter text <ul style="list-style-type: none"> • Resizing fonts and styles • Copying and move the cell data • Sorting and Filter the data • Applying elementary formulas and functions • Protecting the spreadsheet with password • Printing a spreadsheet • Saving the spreadsheet in various formats. 	
2. Prepare presentation using presentation application	<ol style="list-style-type: none"> 1. Introduction to presentation 2. Software packages for presentation 3. Creating a new presentation 4. Adding a slide 5. Deleting a slide 6. Entering and editing text 7. Formatting text 8. Inserting clipart and images 9. Slide layout 10. Saving a presentation 11. Printing a presentation document. 	<ol style="list-style-type: none"> 1. Demonstration and practice on the following: <ul style="list-style-type: none"> • Listing the software packages for presentation • Explaining the features of presentation • Creating a new presentation • Adding a slide to presentation. • Deleting a slide • Entering and edit text • Formatting text • Inserting clipart and images • Sliding layout • Saving a presentation • Printing a presentation document 	10
Total			20

Unit 4: Entrepreneurship Skill – IV			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Identify the general and entrepreneurial behavioural competencies	<ol style="list-style-type: none"> 1. Barriers to becoming entrepreneur 2. Behavioural and entrepreneurial competencies – adaptability/decisiveness, initiative/perseverance, interpersonal skills, organizational skills, stress management, valuing service and diversity 	<ol style="list-style-type: none"> 1. Administering self-rating questionnaire and score responses on each of the competencies 2. Collect small story/ anecdote of prominent successful entrepreneurs 3. Identify entrepreneurial competencies reflected in each story and connect it to the definition of behavioural competencies 4. Preparation of competencies profile of students 	10
2. Demonstrate the knowledge of self-assessment of behavioural competencies	<ol style="list-style-type: none"> 1. Entrepreneurial competencies in particular: self-confidence, initiative, seeing and acting on opportunities, concern for quality, goal setting and risk taking, problem solving and creativity, systematic planning and efficiency, information seeking, influencing and negotiating 	<ol style="list-style-type: none"> 1. Games and exercises on changing entrepreneurial behaviour and development of competencies for enhancing self-confidence, problem solving, goal setting, information seeking, team building and creativity 	15
Total			25

Unit 5: Green Skills – IV			
Learning Outcome	Theory	Practical	Duration (15 Hrs)
1. Identify the role and importance of green jobs in different sectors	<ol style="list-style-type: none"> 1. Role of green jobs in toxin-free homes 2. Green organic gardening, public transport and energy conservation, 3. Green jobs in water conservation, solar and wind power, waste 	<ol style="list-style-type: none"> 1. Listing of green jobs and preparation of posters on green job profiles 2. Prepare posters on green jobs. 	15

	reduction, reuse and recycling of wastes, 4. Green jobs in green tourism 5. Green jobs in building and construction and appropriate technology 6. Role of green jobs in Improving energy, raw materials use, limiting greenhouse gas emissions, minimizing waste and pollution		
Total			15

Part B: Vocational Skills

S. No.	Units	Duration (Hrs)
1.	Food Safety Standards, Hygiene and Sanitation	30
2.	Pastries, Cakes, Chocolates and Desserts	40
3.	Pastry Craft	60
4.	Documentation and Record Keeping	35
	Total	165

UNIT 1: FOOD SAFETY STANDARDS, HYGIENE AND SANITATION			
Learning Outcome	Theory (15 hrs)	Practical (15 hrs)	Duration (30 hrs)
1. Explain and follow hygiene and sanitation practices in the work area	1. Maintaining Food quality in a Patisserie 2. Hygiene sanitation in a patisserie 3. Prevention of contamination in patisserie 4. Storage of raw, semi processed and finished products	1. Video demonstration on the importance of food quality standards and measures. 2. Identification of stale or spoilt food	08
2. Following food quality standard, acts and legislation	1. Food safety, laws and standards <ul style="list-style-type: none"> • Importance of HACCP • Food standardization and regulatory agency 	2. Draw the flow diagram of HACCP, GMP and QMS 3. Video	12

	(FSSAI) with regard to patisseries <ul style="list-style-type: none"> • Good manufacturing practices (GMP) 	demonstration on HACCP	
3. Explain safety practices and undertake physical and biological methods of treating waste materials	<ol style="list-style-type: none"> 1. Potential safety hazards at work place. 2. Safety signs and symbols 3. Procedure for treating waste materials using physical and biological methods 4. Waste segregation 	1. Disposing waste safely and correctly in a designated area	10
Total			30

UNIT 2: PASTRIES, CAKES, CHOCOLATES AND DESSERTS			
Learning Outcome	Theory (16 hrs)	Practical (24 hrs)	Duration (40 hrs)
1. Describe the parameters important to maintaining quality of pastry products	<ol style="list-style-type: none"> 1. Quality parameters of raw ingredients: <ul style="list-style-type: none"> • Flour • Sugar • Fat • Egg • Leavening agents • Flavors and Condiments etc. • Cream • Cheese 2. Equipment, tools and techniques used in preparation 	<ol style="list-style-type: none"> 1. Identify half-baked, baked and over baked products. Identify different ingredients via video and hands on demo 	12
2. Explain types of mixers, dough sheeter and other pastry equipment and tools	<ol style="list-style-type: none"> 1. Types of mixers used in pastry production 2. Machines and tools used in patisseries 3. Cooling procedures for different cold products. 	<ol style="list-style-type: none"> 1. Visit to nearby baking facility to see the difference between different machine, tools and equipment 	15
3. Describe processes, importance and parameters of checking quality, packing and storage of bakery	<ol style="list-style-type: none"> 1. Packaging of Bakery and Patisseries 2. First in First out (FIFO) and First expiry first out (FEFO) 3. Storage of raw material 4. Storage and shelf life of 	<ol style="list-style-type: none"> 1. Demonstrate cooling, packing and storage process of desserts and chocolates 	07

products	finished products		
4. Enumerate the steps of Post Production Cleaning and Maintenance of process equipment	1. Cleaning methods for machinery and tools 2. Cleaning procedures <ul style="list-style-type: none"> • Clean in place (CIP) and • Clean out of place (COP) 	1. Demonstrate the differences between CIP and COP. 2. Enlist the items cleaned through COP.	06
Total			50

UNIT 3: PASTRY CRAFT			
Learning Outcome	Theory (20 hrs)	Practical (40 hrs)	Duration (60 hrs)
1. Describe and prepare basic desserts bases and desserts	1. Preparation of dessert bases: <ul style="list-style-type: none"> • Creams (whipped cream, Chantilly and butter cream) • Custards (egg based and eggless) • Dessert sauces: (Vanilla, chocolate, fruit compote and coulis) • Pie/ Tart crust • Choux pastry (éclair, sponge) 2. Preparation and garnishing of Desserts: <ul style="list-style-type: none"> • Mousse (Chocolate, vanilla, pineapple etc.) • Souffle (hot and cold) • Crème brulee • Crème caramel • Apple Pie • Chocolate/ vanilla éclair • Pineapple upside down cake • Chocolate brownie • Choco lava cake • Fruit tart 3. Preparation of garnishes/	1. Prepare basic <ul style="list-style-type: none"> • Choux pastry (Éclair, profiteroles and swans) • Tart ((Fruit tart, lemon Meringue tart, Apple Pie) • Mousse (Tiramisu, chocolate mousse and cold soufflé) 2. Preparation of garnishes/ decorations <ul style="list-style-type: none"> • Chocolate 	25

	decorations <ul style="list-style-type: none"> • Chocolate garnishes • Tuille • Fruits • Nuts • Cream • Meringue 	garnishes <ul style="list-style-type: none"> • Tuille • Fruits • Nuts • Cream • Meringue 	
2. Describe and prepare basic cakes	1. Basic sponge and Mousse cakes <ul style="list-style-type: none"> • Sponge cakes • Genoise cake • Cream cakes • Butter cream cake • Mousse cake 2. Preparation of classic cakes <ul style="list-style-type: none"> • Black forest cake • Butterscotch cake • Pineapple cake • Chocolate/ Truffle cake • Mousse cake- Chocolate 	1. Preparing Basic sponges for cake <ul style="list-style-type: none"> • Sponge cakes • Genoise cake • Swiss cake • Cream cakes 2. Preparing Sponge cakes <ul style="list-style-type: none"> -Layering with cream/ butter cream and flavor complimenting - Covering cake with cream and butter cream - Finishing and garnishing -Portioning of the cakes 	20
3. Prepare Chocolates	1. Chocolates Types of Chocolates: <ul style="list-style-type: none"> • Couverture • Compound 2. Basic chocolates preparation <ul style="list-style-type: none"> • Truffle • Ganache • Bar chocolates • Moulded chocolates 	1. Demonstration of types of chocolates <ul style="list-style-type: none"> • Compound • Couverture 2. Preparing Chocolate Ganache 3. Preparing Moulded chocolate	15
Total			60

UNIT 4: DOCUMENTATION AND RECORD KEEPING			
Learning Outcome	Theory (15 hrs)	Practical (20 hrs)	Duration (35 hrs)
1. Keep record of raw material	1. Record keeping 2. Documentation of raw material 3. Requisitioning raw material for daily production) 4. Enterprise resource planning (ERP	1. Visit to any food industry/ audio visual demonstration of record keeping. 2. Creating an inventory management of raw materials.(material in, material out, opening stock and remaining stock)	15
2. Assess the details to be documented at production schedule and process chart	1. Maintaining records of production schedule 2. Maintaining records production process	1. Demonstration of record maintenance process at production schedule and process stages	10
3. Assess the details to be maintained and documented at finished product stages.	1. Record maintenance of finished products 2. Using ERP for finished product	2. Demonstrate the record maintenance process of finished product.	10
Total			35

6. ORGANISATION OF FIELD VISITS

In a year, at least 3 field visits/educational tours should be organized for the students to expose them to the activities in the workplace.

Visit a Bakery industry and observe the following: Location, Site, Office building, Store, Washing chamber, weighing room, packaging material, Packing chamber, storage chamber etc. During the visit, students should obtain the following information from the owner or the supervisor of the industry/processing unit:

1. Types of processed foods at the industry
2. Types of packaging material used

3. Types of products prepared
4. Total input and output handled annually
5. Manpower engaged
7. Total annual income
8. Profit/Loss (Annual)
9. Any other information

7. LIST OF EQUIPMENT AND MATERIALS

The list given below is suggestive and an exhaustive list should be prepared by the vocational teacher. Only basic tools, equipment and accessories should be procured by the Institution so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience.

Equipment

- Baking oven
 - Deck Oven (double deck manual)
 - Convection Oven' (7 trays, 600 mm/400mm)
 - Rotary Oven
 - (either choose gas or electricity operated oven)
- Hand blender cum mixer
- Mixer and grinder 5 lt
- Planetary mixer 5 lt and 20 lt.
- Spiral mixer 20 lt
- Refrigerator two door: 3 no (550 lt.)
- Vertical four door Freezer 1100 lt.
- Weighing scale

Utensils and tools

Marble Table top

- Serrated Bread Knife
- Bread tin/ mould
- Aluminium Cake pan
- Cooling racks
- Cutting board
- Dough scrapers and plastic
- Flour sifter/ sieves
- Apron & head gear
- Gloves
- Hand towels
- Icing comb
- Measuring cup
- Measuring jug
- Measuring spoon
- Mixing bowl/vessels

- Moulds/cutter
- Muffin tray
- Nozzle set
- Parchment paper
- Pallet knife straight and bent
- Piping bag
- Plates
- Rolling pin
- Cake rings
- Spatula and pastry brush
- Spoon (big and small)
- Storage containers
- Strainer
- Turn table
- Wire whiskers
- Water storage can
- Packaging material food grade
- Pizza cutter
- Dough sheeter

8. VOCATIONAL TEACHER'S/ TRAINER'S QUALIFICATION AND GUIDELINES

Qualification and other requirements for appointment of vocational teachers/trainers on contractual basis should be decided by the State/UT. The suggestive qualifications and minimum competencies for the vocational teacher should be as follows:

.No.	Qualification	Minimum Competencies	Age Limit
1.	1. Graduation (3 year and 4 year degree) in Food Production/ Hotel Management/ from a recognized Institute/University, with at least 1- year work experience in a reputed Stand- alone Bakery or within a bakery of a 5 star Hotel. or 2. 3-year diploma in Hotel Management and Catering Technology from recognized (AICTE)	<ul style="list-style-type: none"> • Expertise in artisan bakery and patisseries product preparation • Knowledge of computer skills • Excellent communication 	22 -40 years (as on Jan.01 (year)) Age relaxation to be provided as per Govt. rules

	<p>approved University, Colleges, or Institute with 2-year experience from reputed bakery brand. or</p> <p>3. 1- year Diploma in Patisserieand bakery arts from reputed culinary Institute in India or abroad with 3-year experience. or</p> <p>4. 1- year craft course with 3 - year working experience in bakery company .</p>		
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Vocational Teachers/Trainers form the backbone of Vocational Education being imparted as an integral part of RashtriyaMadhyamikShikshaAbhiyan (RMSA). They are directly involved in teaching of vocational subjects and also serve as a link between the industry and the schools for arranging industry visits, On-the-Job Training (OJT) and placement.

These guidelines have been prepared with an aim to help and guide the States in engaging quality Vocational Teachers/Trainers in the schools. Various parameters that need to be looked into while engaging the Vocational Teachers/Trainers are mode and procedure of selection of Vocational Teachers/Trainers, Educational Qualifications, Industry Experience, and Certification/Accreditation.

The State may engage Vocational Teachers/Trainers in schools approved under the component of Vocationalisation of Secondary and Higher Secondary Education under RMSA in the following ways:

(i) directly as per the prescribed qualifications and industry experience suggested by the PSS Central Institute of Vocational Education(PSSCIVE), NCERT or the respective Sector Skill Council(SSC)

OR

(ii) through accredited Vocational Training Providers accredited under the National Quality Assurance Framework (NQAF*) approved by the National Skill Qualification Committee on 21.07.2016. If the State is engaging Vocational Teachers/Trainers through the Vocational Training Provider (VTP), it should ensure that VTP should have been accredited at NQAF Level 2 or higher.

The National Quality Assurance Framework (NQAF) provides the benchmarks or quality criteria which the different organizations involved in education and training must meet in order to be accredited by competent bodies to provide government-funded education and training/skills activities. This is applicable to all organizations offering NSQF-compliant qualifications.

The educational qualifications required for being a Vocational Teacher/Trainer for a particular job role are clearly mentioned in the curriculum for the particular NSQF compliant job role. The State should ensure that teachers / trainers deployed in the schools have relevant technical competencies for the NSQF qualification being delivered. The Vocational Teachers/Trainers preferably should be certified by the concerned Sector Skill Council for the particular Qualification Pack/Job role which he

will be teaching. Copies of relevant certificates and/or record of experience of the teacher/trainer in the industry should be kept as record.

To ensure the quality of the Vocational Teachers/Trainers, the State should ensure that a standardized procedure for selection of Vocational Teachers/Trainers is followed. The selection procedure should consist of the following:

- (i) Written test for the technical/domain specific knowledge related to the sector;
- (ii) Interview for assessing the knowledge, interests and aptitude of trainer through a panel of experts from the field and state representatives; and
- (iii) Practical test/mock test in classroom/workshop/laboratory.

In case of appointment through VTPs, the selection may be done based on the above procedure by a committee having representatives of both the State Government and the VTP.

The State should ensure that the Vocational Teachers/Trainers who are recruited should undergo induction training of 20 days for understanding the scheme, NSQF framework and Vocational Pedagogy before being deployed in the schools.

The State should ensure that the existing trainers undergo in-service training of 5 days every year to make them aware of the relevant and new techniques/approaches in their sector and understand the latest trends and policy reforms in vocational education.

The Head Master/Principal of the school where the scheme is being implemented should facilitate and ensure that the Vocational Teachers/Trainers:

- (i) Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;
- (ii) Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;
- (iii) Make effective use of learning aids and ICT tools during the classroom sessions;
- (iv) Engage students in learning activities, which include a mix of different methodologies, such as project based work, team work, practical and simulation based learning experiences;
- (v) Work with the institution's management to organize skill demonstrations, site visits, on-job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;
- (vi) Identify the weaknesses of students and assist them in up gradation of competency;
- (vii) Cater to different learning styles and level of ability of students;
- (viii) Assess the learning needs and abilities, when working with students with different abilities
- (ix) Identify any additional support the student may need and help to make special arrangements for
- (x) that support;
- (xi) Provide placement assistance

Assessment and evaluation of Vocational Teachers/Trainers is very critical for making them aware of their performance and for suggesting corrective actions. The States/UTs should ensure that the performance of the Vocational Teachers/Trainers is appraised annually. Performance based appraisal in relation to certain pre-established criteria and objectives should be done periodically to ensure the quality of the Vocational Teachers/Trainers. Following parameters may be considered during the appraisal process:

1. Participation in guidance and counseling activities conducted at Institutional, District and State level;
2. Adoption of innovative teaching and training methods;
3. Improvement in result of vocational students of Class X or Class XII;
4. Continuous up gradation of knowledge and skills related to the vocational pedagogy, communication skills and vocational subject;
5. Membership of professional society at District, State, Regional, National and International level;
6. Development of teaching-learning materials in the subject area;
7. Efforts made in developing linkages with the Industry/Establishments;
8. Efforts made towards involving the local community in Vocational Education
9. Publication of papers in National and International Journals;
10. Organization of activities for promotion of vocational subjects;
11. Involvement in placement of students/student support services.

9. List of Contributors

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विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION

(a constituent unit of NCERT, under MHRD, Government of India)

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