

Curriculum of Matric Tech

Fundamentals of Cooking I

GRADE IX

2020



GOVERNMENT OF PAKISTAN

Ministry of Federal Education and Professional Training ISLAMABAD

In Collaboration with

National Vocational and Technical Training Commission

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Introduction

Pakistan is a developing country with 5th largest population in the world. 64% of our population is below 30 years of age which makes it second youngest country in South Asia. This “youth bulge” provides unique challenges as well as opportunities for the country’s social and economic development. The only remedy is to develop youth of Pakistan through education and training. To control the increasing un-employment, promoting entrepreneurship (self-employment), alleviate poverty and provide skilled manpower for industrial/economic growth, The Govt. of Pakistan has decided to introduce Technical Scheme at SSC Level. For this a stream of technical subjects has been selected including Fundamentals of Cooking as one of the elective subjects.

The curriculum of Fundamentals of Cooking is designed to produce middle level human resources equipped with knowledge, skills and attitudes related to the field of culinary arts so as to meet the demand of such workforce in the country and abroad to contribute to the national streamline of poverty reduction of Pakistan.

Professional Cooking is one of the most popular area of hospitality trades with the highest demand in the overall Hospitality job-market. “Chef” means a person who performs all phases of kitchen activities including the preparation and presentation of vegetables, soups, sauces, meat, fish and poultry, cold kitchen items; desserts, baking, pastry; basic menu planning/costing as well as knowledge of safety, sanitation and food storage, and who has a knowledge of human and customer relations.

The field is of an utmost importance and is assisting individual along with employer around the globe. Moreover, on individual level one can also be certified with various levels of Professional cooking certification which is an industry recognized credential that can get an individual to excel in chef career, benefitting both individual and employer. Certification provides reliable validation of skills and knowledge and would lead to accelerated professional development, improved productivity, and enhanced credibility.

In connection with job market demand, there is a critical need to strengthen and promote productive working relationship between the training provider and industry to enhance quality of training delivery, Personal & professional grooming, and access to attractive employment. The program of study involves learning skills and techniques related to preparing food as a chef. Whether you are preparing a cup of coffee at a small café or an event for 500, there are basic skills you will need to be efficient when handling various types of foods and preparing dishes for your customers and patrons. While deciding on a career to pursue, job outlook is something that needs attention. And as the Bureau of Labor Statistics predicts a 10 percent job growth until 2026 in Culinary Arts. Employment of chefs and head cooks is projected to grow 11 percent from 2018 to 2028, much faster than the average for all occupations.

Income growth will result in greater demand for high-quality dishes at a variety of dining venues. As a result, more restaurants and other dining places are expected to open to satisfy consumer desire for

Main elements in the development of this qualification consists of competency standards, course structure, credit hours, tools and equipment as per National Vocational Qualification Framework (NVQF) development manual.

Rationale

The culinary arts is a profession that is increasingly getting attention in Pakistan, not only among the youth seeking to enter the industry but also among adults who wish to polish their skills to develop a career out of it. The influx of food-based TV channels, Chef and the increasing demand for home catering has been a pivotal reason for home-based cooks to hone their natural skills and to develop a professional career out of something that they are passionate about.

On completing the curriculum, students should have acquired a set of knowledge and concepts, and have developed a range of technical, personal, interpersonal, organizational and generic skills, that can be applied in various contexts, both within and related to culinary arts domain. Furthermore, this course will stimulate the learners towards entrepreneurship in the industry. Cooking skill interventions can have a positive effect on food literacy, particularly in improving confidence on cooking and fruit and vegetable consumption, with vulnerable, low-socio economic groups gaining more benefits. Consistency across study designs, delivery and evaluation of outcomes both at short and long terms are warranted to draw clearer conclusions on how cooking programs are contributing to improve diet and health.

Within this qualification relating to cooking interventions in schools, there are important interventions that integrated within school settings. The purpose of this qualification is to strengthen connections between schools and trade, and drawing on the concept of the sociotechnical network, theories the interactions between the relevant market and school contexts.

Low education attainment, low income and high socioeconomic deprivation are main factors associated with poor diet. These factors tend to increase the likelihood of inadequate food access, low food and nutrition literacy and lack of practical cooking skills in economically deprived households. Currently, there is growing evidence linking home cooking with healthier dietary choices, particularly for higher intakes of fruits, vegetables, and whole grains; whilst eating outside the home has been associated with an increased consumption of ready-to-eat meals and calorie-dense convenient foods. Considering that ‘not knowing how to cook’ stands as barrier to healthful food preparation, the delivery of community cooking skill programs has gained attention in public health agendas as a vehicle to improve and promote confidence, well-

being, and enhance meal quality and preparation practices. These programs have increased and continue to increase in popularity because they offer a valuable channel to engage with vulnerable groups via inclusive social activities, whilst positively impacting their dietary profiles and health outcomes.

Professional Cooking, matric tech (9th&10th)

Aims and Objectives

The specific objectives of developing these qualifications are as under:

- Provide students with a smooth transition to work.
- Develops job-readiness & enhance students' trade-specific employable skills and provide opportunities for the development of new skills.
- Provide students with the opportunity to obtain from Level II -IV technical training certification or equivalent in a given trade.
- To set high profile standard professions for the industry to generate standard outputs.
- To validate an individual skill, knowledge and understanding regarding relevant occupations.
- Provide flexible pathways and progressions in training and assessment field.

Objectives

After completing this, the students will be able to:

- develop values and attitudes about the dynamic nature of the culinary arts and the importance of being a self-motivated problem solver and life-long learner
- understand workplace structure and function to utilize this knowledge in hotel industry
- apply the acquired knowledge, values, and skills in the field of hospitality
- start small size entrepreneurship
- progress to higher levels of studies in the field of culinary arts.
- develop a range of technical, personal, interpersonal, organizational, and generic skills that can be applied in various contexts, both within and beyond the workplaces.

Grade -IX

Ch # 01 Hygiene and Personal Safety			Theory: 11 Periods Practical: 11 Periods		
Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Introduction to Hygiene	<p>The students will be able to:</p> <ul style="list-style-type: none"> know about the importance of hygiene in food preparation industry understand the merits of following hygiene practices in kitchen understand the relationship between hygiene and health follow hygiene and safety at workplace 	<ul style="list-style-type: none"> Group discussion on importance of hygiene and safety 	Period (T) Period (P)		Classroom
Personal Hygiene	<ul style="list-style-type: none"> know the concept of personal hygiene understand the basic rules of hygiene follow hand washing procedure and rules follow personal hygiene and chef's uniform for kitchen operations 	<ul style="list-style-type: none"> Perform standard hand cleaning procedure 	Period (T) Period (P)		Classroom
Personal Safety	<ul style="list-style-type: none"> know basic principles and objectives of safety understand safety procedures (manual handling, chemical handling, signage, slips trips, falls, cuts and burns) handle kitchen tools safely 	<ul style="list-style-type: none"> Perform manual handling under supervision of teacher 	Periods (T) Period (P)		Classroom
PPE/ Uniform	<ul style="list-style-type: none"> recognize parts of uniform and role in kitchen follow personal protective equipment (PPE) 	<ul style="list-style-type: none"> Demonstrate the use of PPE Kits and Uniforms (Gloves, Uniforms, Shoes, Hair net, Beard net, Masks) 	Periods (T) Periods (P)		Classroom

Ch.2 Workplace Safety and Environment (IX)			Theory: 10 Periods Practical: 10 Periods		
Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Workplace Safety	The students will be able to: <ul style="list-style-type: none"> • learn the importance of safety at workplace • recognize hazards in the workplace • understand hazards and threats <ul style="list-style-type: none"> ○ gas & electricity ○ environmental ○ ergonomic hazards 	<ul style="list-style-type: none"> • Teacher will create a pictorial phenomenon and student will recognize hazards • Report an assumed incident 	Periods (T) Periods (P)		Classroom
Equipment Handling	<ul style="list-style-type: none"> • learn about the dangers posed by equipment • understand the operation of gas and electric appliances • follow standard process for kitchen cleaning 	<ul style="list-style-type: none"> • Operate basic kitchen equipment (oven, grill, griddle, food mixer, slicers, etc.) 	Periods (T) Periods (P)		Classroom/kitchen lab
Fire safety and hazards	<ul style="list-style-type: none"> • know about the fire triangle and types of fire • understand fire extinguisher types • follow the correct fire extinguishing methods • understand correct evacuation procedures • identify fire hazards 	<ul style="list-style-type: none"> • Usage of fire extinguishers under expert supervision (Fire brigade or rescue department) 	Periods (T) Periods (P)	<ul style="list-style-type: none"> • Fire extinguishers, fire buckets, first aid and PPE (helmet, gloves etc.,) 	Classroom/open area
Ch.3 Food Safety and Hygiene (IX)			Theory: 12 Periods Practical: 16 Periods		
Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Introduction of Food Safety Systems	the students will be able to: <ul style="list-style-type: none"> • understand food safety points and procedures • define food hygiene • understand food poisoning & contamination 	<ul style="list-style-type: none"> • Presentation on food safety procedure. 	Periods (T) Periods (P)		Classroom
Food Storage Conditions	<ul style="list-style-type: none"> • know about food labeling • understand storage instruction • identify danger-zone 	<ul style="list-style-type: none"> • Read labels for manufacturing, expiry, 'best before' and 'use by dates' & storage 	Periods (T) Periods (P)		Classroom

		instruction			
Food Preservation	<ul style="list-style-type: none"> understand the methods of food preservation understand heat treatment procedure 	<ul style="list-style-type: none"> Presentation on Heat treatment procedure and their effects 	Periods (T) Periods (P)		Classroom
Food Contaminants	<ul style="list-style-type: none"> know food contamination classify reasons/factors of food contamination follow standard procedures to avoid contamination 	<ul style="list-style-type: none"> Practice standard procedures to avoid contamination Practice safe food handling and demonstrate cleaning practices in kitchen 	Periods (T) Periods (P)		Classroom/ Lab
Handling Food Wastage	<ul style="list-style-type: none"> understand risks and hazards associated with garbage and wastage know SOPs for waste management comprehend garbage handling and safe disposal 	<ul style="list-style-type: none"> Perform waste management as per SOPs 	Periods (T) Periods (P)		Classroom/ Lab

Ch.4 Hazard Analysis and Critical Control Points (HACCP)

**Theory: 4 Periods
Practical : 08 Periods**

Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Introduction to Food Safety System	the students will be able to: <ul style="list-style-type: none"> define food safety systems understand the concept of FATTOM 	<ul style="list-style-type: none"> Draw a chart on FATTOM 	Periods (T) Periods (P)		Classroom
Introduction of HACCP	<ul style="list-style-type: none"> define HACCP (Hazard Analysis Critical Control Point) identify hazardous foods understand the 7 principles of HACCP 	<ul style="list-style-type: none"> Presentation on HACCP procedure Draw a flow chart of HACCP principles 	Periods (T) Periods (P)		Classroom

ch.5 Vegetables, Greens and Fruits (IX)

**Theory: 08 Periods
Practical : 16 Periods**

Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Types and Categories of Vegetables Greens and	the students will be able to: <ul style="list-style-type: none"> know about the types and categories of: <ul style="list-style-type: none"> vegetables 	<ul style="list-style-type: none"> Draw a chart to explain types of vegetables 	Periods (T) Periods (P)		Classroom

Fruits	<ul style="list-style-type: none"> ○ greens ○ fruits ● recognize various categories of vegetables and use ● learn their processing techniques 	<ul style="list-style-type: none"> ● Draw a chart to explain types of fruits 			
Processing, Cooking and Storing	<ul style="list-style-type: none"> ● know requirements for cooking complex vegetable dishes ● learn different methods of cooking vegetables and greens ● follow appropriate methods to cook vegetable and fruit dishes ● recognize tools and equipment to cook complex vegetable dishes correctly 	<ul style="list-style-type: none"> ● make combination of ingredients for complex vegetable dishes ● Prepare Sweet and Savory dishes using Fruits, Vegetables and Greens 	Periods (T) Periods (P)		Classroom/ Cooking lab
Serving	<ul style="list-style-type: none"> ● serve vegetable and fruit dish to meet recipe standards ● understand correct temperature for holding and serving 	<ul style="list-style-type: none"> ● serve dishes according to modern culinary techniques ● Cook-chill prepared food for cold presentation 	Periods (T) Periods (P)		Classroom/ Cooking lab

Ch. 6 Dairy and Eggs (X)

Theory : 11 Periods
Practicum: 16 Periods

Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Dairy	the students will be able to: <ul style="list-style-type: none"> ● understand the categories of dairy products ● know about fermentation process and cheese making ● understand special attributes of dairy product and its specification 	<ul style="list-style-type: none"> ● presentation on dairy products, their preparation method and percentage of fat ● Draw a chart on cheeses and their origin, also specify the aging process 	Periods (T) Periods (P)		Classroom
Eggs	<ul style="list-style-type: none"> ● understand special attributes of eggs in cooking and baking ● understand use of eggs for making different dishes 	<ul style="list-style-type: none"> ● use eggs in making: <ul style="list-style-type: none"> ○ soup ○ mayo 	Periods (T) Periods (P)		Classroom

		<ul style="list-style-type: none"> ○ salad ○ Halwa 			
Processing and Cooking	<ul style="list-style-type: none"> • use tools and equipment to make dairy products correctly • learn different methods to prepare dairy products • make different dishes from dairy products 	<ul style="list-style-type: none"> • Prepare food items using dairy products 	Periods (T) Periods (P)		Classroom/ Cooking lab
Special Consideration for Eggs and dairy	<ul style="list-style-type: none"> • identify contaminated egg and dairy • learn about contaminants present in eggs and dairy dishes • understand handling and storage of egg and dairy based foods • know the risks involved with ovo-lacto-allergens 	<ul style="list-style-type: none"> • Presentation on the contaminants associated with eggs and dairy products • List of alternatives for ovo-lacto allergens 	Periods (T) Periods (P)		Classroom/ Cooking lab

Ch. 7 Butchery (IX)

Theory: 11 Periods
Practicum: 21 Periods

Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Beef & Mutton	the students will be able to: <ul style="list-style-type: none"> • know about categories of meat and quality points • learn about the inspection and grading of meat • understand meat storage conditions • know about the main cuts of meat 	<ul style="list-style-type: none"> • Presentation about types of meat • Prepare chart on lamb, beef and mutton cuts • Cut meat according to specification 	Periods (T) Periods (P)	Knives, cutting boards, Kitchen facility	Classroom/ Kitchen lab
Poultry	<ul style="list-style-type: none"> • learn about poultry <ul style="list-style-type: none"> ○ broiler, fryer, roaster, duckling, etc. • differentiate between light meat and dark meat • know the basic procedure of cutting chicken 	<ul style="list-style-type: none"> • Prepare chart on contamination risks of poultry • Prepare poultry cuts according to specification 	Periods (T) Periods (P)	Knives, cutting boards, Kitchen facility	Classroom/ Kitchen lab

	<ul style="list-style-type: none"> understand the contamination risks associated with poultry 				
Fish and Seafood	<ul style="list-style-type: none"> Learn different types of seafood <ul style="list-style-type: none"> fish crabs prawns know about different categories of seafood <ul style="list-style-type: none"> salt water fishes fresh water fishes learn about safe storage and handling seafood know about the cutting of fish 	<ul style="list-style-type: none"> Prepare chart on contamination risks of poultry Prepare seafood according to specification 	Periods (T) Periods (P)	Knives, cutting boards, Kitchen facility	Classroom/ Kitchen lab

Ch.8 Beverages

Theory : 5 periods
Practicum: 14 Periods

Themes	Students' Learning Outcomes	Activities	Duration	Tools	Workplace
Beverages	the students will be able to: <ul style="list-style-type: none"> learn about types and categories of beverages: <ul style="list-style-type: none"> hot and cold beverages understand the role of beverages in food industry 	<ul style="list-style-type: none"> Presentation on categories of beverages prepared in Pakistan 	Periods (T) Periods (P)		Classroom/ Kitchen lab
Preparation of Beverages	<ul style="list-style-type: none"> know standard process to prepare hot & cold beverages use appropriate methods & temperatures to prepare hot & cold beverages 	<ul style="list-style-type: none"> Use tools and equipment to prepare hot & cold beverages correctly Select, Measure & Combine ingredients in appropriate ratio for hot & cold beverages as per recipe for suggested serving size 	Periods (T) Periods (P)		Classroom/ Kitchen lab
Finishing and quality point	<ul style="list-style-type: none"> prepare hot and cold beverages as per standard recipe 	<ul style="list-style-type: none"> Finish and garnish margarita, 	Periods (T) Periods		Classroom/ Kitchen lab

	<ul style="list-style-type: none">• describe the quality points of hot and cold beverages	smoothie, milkshake and hot beverages as per recipe standards <ul style="list-style-type: none">• Prepare recipe chart of prepared beverage	(P)		
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Assessment and Evaluation

Assessment is the practice of collecting evidence of student learning. It aims at improving learning and teaching as well as recognizing the achievement of students. It determines students' progression through their learning experiences and enables them to demonstrate that they have achieved the intended learning outcomes. The assessment is aligned with curriculum aims, design and learning processes.

Evaluation is an integral part of teaching-learning process. It involves gathering information through various assessment techniques, making valuable judgment and sound decisions. Assessment provides information and teaching about students' achievement in relation to learning objectives. With this information, the teacher makes informed decisions about what should be done to enhance the learning of students or to improve teaching methods. Assessment must be:

- mainly open-ended, allowing for discussion and revision of new understanding.
- tolerant of divergent thinking of students and promote the notion of no "one right answer".
- presented in alternative mode, not just paper-and-pencil responses to limiting questions.
- designed to foster analysis, comparison, generalization, prediction, and modification according to the grade and development level.
- capable of promoting collaboration and team effort in demonstration of competence.
- ongoing and cumulative, showing growth over time.

Formative (Internal) Assessment

Internal assessment refers to the assessment practices employed as part of the learning and teaching process. It is an ongoing process throughout the session and uses Test — Feedback — Adjust cycle repeatedly to improve students' performance and efficiency in learning and teaching. In designing internal assessment for the subject, teachers should maintain a proper balance between the formative and summative functions of assessment. It should be comprehensive to cover all the objectives as per curriculum. A diversity of assessment modes should be adopted so that students are given opportunities to develop and demonstrate the full range of learning outcomes of the curriculum, including those of knowledge, skills and values and attitudes.

Methods for Internal/Formative Assessment

Following tasks can help in formative assessment;

- assignments • quizzes • tests • group discussions • oral/multimedia presentations • worksheets • online interactive activities • role play

- demonstration ● practical exercises

Feedback on students' work in all of the above tasks must be prompt, effective, and efficient. Assessment should have questions setting that specifically help in finding out knowledge, understanding and skills.

Summative /External Assessment

Summative assessment will be managed by concerned Board of Intermediate and Secondary Education. It will be composed of two parts;

1) Theory Assessment /Written examination: The theory examination is suggested to consist of a wide variety of questions. Its overall weight age should be 40 %. It should be based on the curriculum rather than textbook. The assessment should be designed to examine the candidate's understanding of the whole syllabus and should test the range of abilities according to Bloom Taxonomy.

2) Practical Assessment/Practical examination: This is designed to test Practical skills of students. Its overall weight age should be 60%. It will comprise of written exam (10%), practical (70 %) and viva/oral exam (20%).

A standards-referenced approach will be adopted for grading and reporting student performance. The purpose of this approach is to recognize what each student can do in the subject at the end of the 2-year secondary school level education. The performance of each student will be matched against a set of performance standards, rather than comparing to the performance of other students. It makes the implicit standards explicit by providing specific indication of individual student performance. Descriptions will be provided for the set of standards.

Guidelines for Writing a Textbook

A textbook is an important teaching and learning resource and one of the most extensively used resources in classrooms. To reflect national needs and aspirations the needs and aspirations, the textbooks should be written in accordance with this curriculum. This curriculum meets not only the general aims and objectives but also fulfills the specific requirements of the individual subject. As the textbook serves as a framework for teaching, the author/authors should consider the following features:

- A textbook must include an introduction to the textbook, explaining how to use the textbook
- The textbook must be in line with the National Curriculum, covering all SLOs of each theme or concept.
- Content and illustrations must be culturally, contextually and age appropriate.

- All text and material must be accurate, up-to-date and error-free.
- The continuity of the concepts, their integration and logical development should be ensured.
- Horizontal and vertical overlapping of the concepts should be avoided.
- The textbook should be informative and interactive with questions to be put at suitable intervals to provoke the students to think.
- The language used should be simple, clear, straight forward, unambiguous and easily comprehensible by the students of the particular level.
- Simple questions may be asked within the chapter, which requires students to recall, think, and apply what they have just learnt as well as to reinforce the learning of the concepts and principle.
- The examples and applications should be from everyday life and be supportive of our cultural values.
- Photographs and illustrations should be clear, labeled and supportive of the text. Tables, flow charts and graph may be given wherever needed.
- Key points at the end of each chapter should provide a summary of the important concepts and principles discussed in the chapter.
- End-of-the-Chapter exercises must include a variety of assessment styles based on levels of Bloom's Taxonomy. These should encourage students to think, develop skills, and use information for a variety of purposes.
- Textbooks should be free from all kinds of biases including, gender, religion, occupation, social background etc.
- To make the students self-learner use of IT based resources may be encouraged. Relevant internet links and other online resources may be included.
- Glossary of the new vocabulary must be included.

Guideline for planning and writing a chapter

The textbook author may decide the titles of each chapter and can choose to cover students' learning outcomes (SLOs) from any themes in developing the content of the chapter. The textbook author must also keep in mind that a number of SLOs cannot be addressed in the text (as if this is done it would lead students to simply memorize the text and not serve the realization of the curriculum). These SLOs could be realized through questions and practical activities within and at the end of the chapter exercises.

- Learning outcomes must be given at beginning of each chapter.
- Decide on key ideas, facts, concepts, skills and values that can be developed.
- Illustrations must clearly convey the desired concept.

- Activities must demand from students to do inquiry and problem solving according to grade level.
- Ensure that the content is up to date, accurate and developmentally appropriate.
- Contents must be in line with chapter outcomes.
- Language must be consistent, culturally appropriate and grammatically correct (as if talking to a group).
- Language must engage and hold reader's attention.
- Recall previous learning, where possible.
- Structure the writing so that the sentence is simple, paragraphs deal with single ideas etc.
- Interesting information in the form of tidbits, fact file, point to ponder etc. must be given.
- Write a summary/concept map at end of each chapter, reviewing key knowledge and skills.
- End-of-chapter exercises
- Recall and integrate previous learning
- Engage students and develop their creativity
- Move from lower to higher order thinking
- Focus on multiple intelligences
- Keep the text contextually relevant in line with local teaching and learning.
- Provide website links for further research

Guidelines for Writing Learner Workbook

Workbooks are books that contain writing activities and exercises that build upon each chapter in the textbook. Workbook exercises help students to develop conceptual understanding of the concepts dealt with in the text, to develop skills and to apply knowledge to new situations. Basic features of a workbook A workbook should have:

- Various exercises and activities for each chapter, topic, subtopic.
- Exercises and activities that will enable student to develop and practice the content knowledge, skills and higher order thinking.
- Accurate and variety of exercises.
- Clear illustrations/ examples/ explanations to show what students are supposed to do, and/or what product looks like.
- Exercises and activities with a variety of purposeful, stimulating, challenging and innovative items to encourage students to review and practice the knowledge and skills they have learnt.
- Exercises that include both constructed and restricted response items.
- Activities, which requires readily available, acceptable, and affordable materials and resources.