

LEARNING OUTCOME BASED VOCATIONAL CURRICULUM

COURSE: Health Care
JOB ROLE: Dietetic Aide
(QUALIFICATION PACK: Ref. Id HSS/Q5201)

Classes 11th and 12th



PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION
Shyamla Hills, Bhopal- 462 002, M.P., India

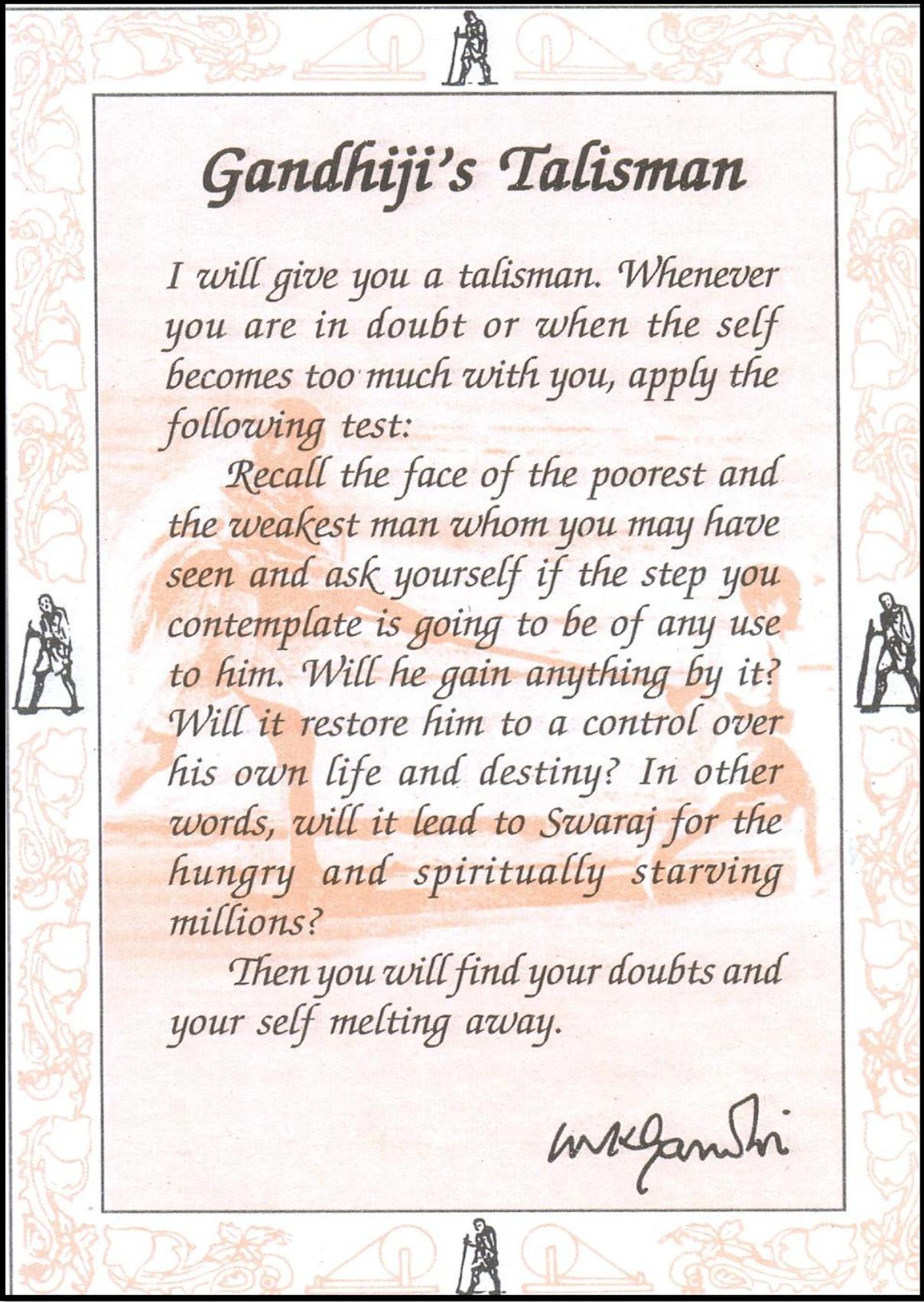
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Gandhiji's Talisman

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

LEARNING OUTCOME BASED VOCATIONAL CURRICULUM

Health Care – Dietetic Aide

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Joint Director

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FOREWORD

The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) a constituent of the National Council of Educational Research and Training (NCERT) is spearheading the efforts of developing learning outcome based curricula and courseware aimed at integrating both vocational and general qualifications to open pathways of career progression for students. It is a part of Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education (CSSVSHSE) launched by the Ministry of Human Resource Development, Government of India in 2012. The PSS Central Institute of Vocational Education (PSSCIVE) is developing curricula under the project approved by the Project Approval Board (PAB) of Samagra Shiksha. The main purpose of the learning outcome based curricula is to bring about the improvement in teaching-learning process and working competences through learning outcomes embedded in the vocational subject.

It is a matter of great pleasure to introduce this learning outcome based curriculum as part of the vocational training packages for the job role of Dietetic Aide. The curriculum has been developed for the higher 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 that aims 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. For spearheading the scheme, the PSS Central Institute of Vocational Education (PSSCIVE) was entrusted the responsibility to develop learning outcome based curricula, 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 is the nation need 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 curricula 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 100 job roles in various sectors.

We extend our gratitude to all the contributors for selflessly sharing their precious knowledge, acclaimed expertise, and 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 modular curricula and courseware to the States and other stakeholders under the PAB (Project Approval Board) approved project of Samagra Shiksha of MHRD.

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 learning outcome based curricula.

We are grateful to the Director, NCERT for his support and guidance. We also acknowledge the contributions of our colleagues at MHRD, RMSA Cell at the National Council of Educational Research and Training (NCERT), National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC) and Health Care Sector Skill Council (HCSSC) for their academic support and cooperation.

We are grateful to the course coordinator A. Nayak, Professor and Head, Department of Health and Paramedical Sciences and experts for their untiring efforts and contributions in the development of this learning outcome based curriculum. Their names are acknowledged in the list of contributors.

The contributions made by Vinay Swarup Mehrotra, Professor and Head, Curriculum Development and Evaluation Centre (CDEC), Dipak Shudhalwar, Associate Professor, Department of Engineering & Technology, PSSCIVE in the development of the curriculum for employability skills are duly acknowledged.

The assistance provided by Jivan Koli, Computer Operator Grade II in typing and composing of the material is duly acknowledged.

PSSCIVE Team

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		Unit 4: Food safety and Food Borne Illnesses
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		Unit 3: Information and Communication Technology Skills – IV
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1. COURSE OVERVIEW

COURSE TITLE: Health Care – Dietetic Aide

A Dietetic Aide assists a registered Dietician in planning, preparing and serving meals to patient with specific dietary and nutritional needs. The key responsibilities of the Dietetic Aide include diet preparation, diet regulations, food handling, safety and sanitary standards and certain administrative functions. The job requires the individual to demonstrate clinical, communication skills and ethical behavior. Healthcare sector is going rapidly over the years. India has a shortfall of 6 million health care professionals and India is far behind the global standards in term of availability of health care services. The job role of Dietetic Aide is one such area where the shortage of this kind of manpower is felt.

COURSE OBJECTIVES: On completion of the course, student should be able to:

- Communicate effectively with the customers;
- Identify and control hazards in the workplace that pose a danger or threat to their safety or health, or that of others.
- Demonstrate the knowledge of modern computers and their parts and peripherals
- Communicate effectively at workplace
- Demonstrate knowledge and understanding about the role of dietetic aide in the healthcare settings.
- Demonstrate the ability to perform clinical skills essential in providing basic diet services such as supervising preparation of food & serving meals to the patient.
- Demonstrate safe handling and management of food by following quality assurance process.
- Demonstrate techniques to show safe disposal of food waste.
- Demonstrate maintenance and cleanliness of all equipment, utensils and tools coming in contact with food.
- Demonstrate techniques to maintain the personal hygiene needs

COURSE REQUIREMENTS: The learner should have the basic knowledge of science.

COURSE LEVEL: This is level 4 courses in Dietetic Aide for Class 11th and Class 12th.

COURSE DURATION: 600 hrs

Class 11th : 300 hrs
 Class 12th : 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 11th and 12th opting for vocational subject along with general education subjects. The unit-wise distribution of hours and marks for Class 11th is as follows:

CLASS 11th			
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: Entrepreneurship Development - III	25	
	Unit 5: Green Skills – III	15	
	Total	110	
Part B	Vocational Skills		
	Unit 1: Human Nutrition and Physiology	35	30
	Unit 2: Food Preparation Practices	35	
	Unit 3: Nutritional Information of Foods and Menu Planning	35	
	Unit 4: Food safety and Food Borne Illnesses	35	
	Unit 5: Bio-medical Waste Management	20	
	Total	160	
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	20
	Viva Voce	10	15
	Total	20	35
Part E	Continuous and Comprehensive Evaluation	05	10
	Total	300	100

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

CLASS 12th			
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: Entrepreneurship Development – IV	25	
	Unit 5: Green Skills – IV	15	
	Total	110	
Part B	Vocational Skills		
	Unit1: Therapeutic Diet	45	30
	Unit2: Nutritional Care in Life style Diseases	30	
	Unit 3: Nutrition Education to Patient	30	
	Unit 4: Food Storage and Preservation	35	
	Unit 5: Emergency Medical Response/First-aid	20	
	Total	160	
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	20
	Viva Voce	10	15
	Total	20	35
Part E	Continuous and Comprehensive Evaluation		
	Total	300	100

Assessment will include two components: one comprising of internal assessment and second component is external examination including theory and practical examinations to be conducted by the Board.

WRITTEN TEST:

It allows candidates to demonstrate that they have the knowledge and understanding of a given topic. Question paper for the vocational subject may 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 recommended by the respective Sector Skill Council. The Central/State Examination Board will use the services of the relevant experts for setting up the question papers and conducting the examinations.

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

Duration: 3 hrs
Max. Mark: 30

	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 questions)

PRACTICAL EXAMINATION

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. **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.

Project Work (individual or group projects) are a great way to assess the practical skills on a certain 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 organised 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, etc. **Viva voce** should also be conducted to obtain feedback on the student's experiences and learning during the project work/field visits.

CONTINUOUS AND COMPREHENSIVE EVALUATION

Continuous and Comprehensive Evaluation (CCE) refers to a system of school-based evaluation of students that covers all aspects of student's development. In this scheme, the term 'continuous' is meant to emphasise that evaluation of identified aspects of students 'growth and development' is a continuous process rather than an event, built into the total teaching-learning process and spread over the entire span of academic session. The second term 'comprehensive' means that the scheme attempts to cover both the scholastic and the co-scholastic aspects of students' growth and development. For details, please refer to the CCE manual of Central Board of Secondary Education (CBSE).

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. 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.

5. UNIT CONTENTS

CLASS 11th

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

Sub 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

Sub 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

Sub 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 document in word processor	<ol style="list-style-type: none"> 1. Editing text 2. Wrapping and aligning the text 3. Font size, type and face. 4. Header and Footer 5. Auto correct 6. Numbering and bullet 	<ol style="list-style-type: none"> 1. Demonstration and practising the following: <ul style="list-style-type: none"> • Editing the text • Word wrapping and alignment • Changing font type, size and face 	10

	<ol style="list-style-type: none"> 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"> • 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

Sub 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 5. Group activity for suggesting brand names, etc. 	15
Total			25

Sub 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.	Human Nutrition and Physiology	35
2.	Food Preparation Practices	35
3.	Nutritional Information of Foods and Menu Planning	35
4.	Food safety and Food Borne Illnesses	35
5.	Bio-medical Waste Management	20
Total		160

Sub Unit 1: Human Nutrition and Physiology			
Learning Outcome	Theory	Practical	Duration (35 Hrs)
1. Able to outline human body composition and anatomy	1. Human anatomy, physiology cells, tissues, bones- introduction.	1. Draw well-labelled diagram of cell. 2. Enlist types of tissues in body	5
2. Differentiate human body systems and their functions	1. Human Body Systems- immune, reproductive, nervous skeleton, digestive, urinary respiratory, sensory	1. Draw well labelled diagram of human body systems	15
3. Explicate nutritional requirements for all age group	1. Nutrition during life cycle from birth to old age, RDA, dietary principles	1. Prepare RDA table for all age group as given by NIN, 2010	15
Total			35

Sub Unit 2: Food Preparation Practices			
Learning Outcome	Theory	Practical	Duration (35 Hrs)
1. Able to differentiate different types of cooking methods	1. Different cooking methods –dry, moist, combination methods	1. Note types of cooking method used in the preparation of meal at your home for each dishes.	20
2. Explicate safe cooking methods to minimize the nutrients loss.	1. Effect of cooking/ heating on nutritive value of food. 2. Safe methods to minimize nutrient loss during cooking.	1. Enlist heat, acid and sunlight labile nutrients.	7
3. State benefits of fermentation, germination and malting	1. Techniques to enhances nutritive value of food-fermentation, germination, malting	1. Demonstrate fermentation, sprouting and malting process and enlist dishes prepared from these methods	8
Total			35

Sub Unit 3: Nutritional Information of Foods and Menu Planning			
Learning Outcome	Theory	Practical	Duration (35 Hrs)
1. Explain various consideration before planning menu	1. Aspects, principles, and guidelines of menu planning, RDA of Indians	1. Prepare RDA table on display chart for the classroom	6
2. Explain food exchange list with portion size	1. Nutritive value of food items, exchange list of food, portion size	1. Make food exchange list for display in classroom	14
3. Plan sample menu for any person	1. Steps of planning menu for a day	1. Plan menu for yourself according to RDA	15
Total			35

Sub Unit 4: Food safety and Food Borne Illnesses			
Learning Outcome	Theory	Practical	Duration (35 Hrs)
1. Explain safe food handling practices	1. Safe Food handling, danger zone, Temperature Control Techniques, sanitation practices, HACCP principles	1. Prepare a note on temperature control techniques and HACCP principles	6
2. Identify sources and preventive measures of food contamination.	1. Food contamination-causes, contaminants, routes of contamination, factors, micro-organisms involved, adulteration	1. Outline growth factors of micro-organisms and food contamination.	14
3. Management of food borne	1. Food borne illness-gastro-intestinal distress,	1. Discuss symptoms and management of food	15

Sub Unit 4: Food safety and Food Borne Illnesses			
illness	electrolyte imbalance, liver disorders, symptoms and management	borne illnesses.	
Total			35

Sub Unit 5: Bio-medical Waste Management			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Demonstrate the knowledge of bio-medical waste management	1. Bio- medical Waste- introduction, category, need of management	1. Categorize bio- medical Waste	5
2. Demonstrate the knowledge of the sources and segregation of bio-medical waste	1. Bio- medical waste in hospital- sources, segregation, Color coding criteria recommended by WHO	1. Enlist various sources of biomedical waste in hospitals 2. Draw picture of color coding criteria for bio- medical waste	10
3. Demonstrate the knowledge of packaging, transportation and disposal of bio-medical waste	1. Bio-medical Waste- transportation and treatment and disposal	1. Outline disposal of different bio- medical waste	5
Total			20

CLASS 12th

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

Sub Unit 1: Communication Skills – IV			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Describe the steps to active listening skills	1. Importance of active listening at workplace 2. Steps to active listening	1. Demonstration of the key aspects of becoming active listener 2. Preparing posters of steps for active listening	15

Sub Unit 1: Communication Skills – IV			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
2. Demonstrate basic writing skills	2. Writing skills to the following: <ul style="list-style-type: none"> • 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

Sub Unit 2: Self-management Skills - IV			
Learning Outcome	Theory	Practical	Duration (25 Hrs)
1. Describe the various factors influencing self-motivation	1. Finding and listing motives (needs and desires); 2. Finding sources of motivation and inspiration (music, books, activities); think expansive thoughts; living fully in the present moment; Dreaming big	1. Group discussion on identifying needs and desire 2. Discussion on sources of motivation and inspiration	10
1. Describe the basic personality traits, types and disorders	1. Describe the meaning of personality 2. Describe how personality influence others 3. Describe basic personality traits 4. Describe common personality disorders- paranoid, antisocial, schizoid, borderline, narcissistic, avoidant, dependent and obsessive	1. Demonstrate the knowledge of different personality types	15
Total			25

Sub Unit 3: Information and Communication Technology Skills – IV			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
1. Perform tabulation using spreadsheet application	1. Introduction to spreadsheet application 2. Spreadsheet applications 3. Creating a new worksheet 4. Opening workbook and entering text 5. Resizing fonts and styles 6. Copying and moving 7. Filter and sorting 8. Formulas and functions 9. Password protection.	1. 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 	10

Sub Unit 3: Information and Communication Technology Skills – IV			
Learning Outcome	Theory	Practical	Duration (20 Hrs)
	10. Printing a spreadsheet. 11. Saving a spreadsheet in various formats.	<ul style="list-style-type: none"> • Opening the workbook and enter text • 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	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.	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

Sub 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

Sub 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 reduction, reuse and recycling of wastes, 4. Green jobs in green tourism 5. Green jobs in building and construction and 	<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

	6. appropriate technology 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.	Therapeutic Diet	45
2.	Nutritional Care in Lifestyle Diseases	30
3.	Nutrition Education to Patient	30
4.	Food Storage and Preservation	35
5.	Emergency Medical Response/ First-aid	20
Total		160

Sub Unit 1: Therapeutic Diet			
Learning Outcome	Theory	Practical	Duration (45 Hrs)
1. Explain types of therapeutic diets and their importance	1. Introduction to therapeutic diet, principles, types, modifications in normal diet	1. Identify examples of various types of therapeutic diets and outline its preparation steps.	15
2. Describe principles of therapeutic diets in different diseases.	1. Therapeutic diet principles in different diseases, Enteral/ Tube Feeding and Parenteral nutrition	1. Visit any dietetic department or diet clinic to watch diet counselling of patient in different diseases	23
3. Understand concept of common drug-nutrient interaction	1. Drug-nutrient interaction, possible effects, precautions	1. Find out drugs used by members of your family and list out its nutrient interaction.	7
Total			45

Sub Unit 2: Nutritional Care in Lifestyle Diseases			
Learning Outcome	Theory	Practical	Duration (30 Hrs)
1. Demonstrate knowledge of basic concept of Life style Diseases and Obesity	1. Lifestyle diseases-basic concept, types, prevalence, co-morbidities 2. Obesity- introduction, types, causes, management	1. Find out prevalence of life style diseases and its co-morbidities among Indian population with underlying causes	7
2. Explain pathophysiology of diabetes mellitus	1. Diabetes Mellitus-introduction, types, pathophysiology, regulation of blood	1. Prepare list of low glycemic foods for diabetes persons	8

Sub Unit 2: Nutritional Care in Lifestyle Diseases			
	glucose level, dietary management		
3. Manage diet in Cardiovascular diseases	1. Cardio vascular Diseases-types, causes, symptoms, pathophysiology, Dietary management	1. List out low fat, low sodium, low cholesterol foods and recipes for cardiovascular patients	15
Total			30

Sub Unit 3: Nutritional Education, Programs and Assessment			
Learning Outcome	Theory	Practical	Duration (30 Hrs)
1. Impart nutrition education to patient	1. Nutrition education-importance, methods, teaching aids, IEC material	1. Visit community health centres and hospital to observe modes of nutrition education	8
2. Enumerate nutritional programmes and policies	1. Nutrition Programs-national and international policies, agencies	1. Discuss various nutritional programmes and their functioning in group	10
3. Assess nutritional status of a person	1. Nutritional status assessment methods-anthropometric, biochemical, clinical, dietary	1. Assess nutritional status of your group students and family members to categorise.	12
Total			30

Sub Unit 4: Food Storage and Preservation			
Learning Outcome	Theory	Practical	Duration (35 Hrs)
1. Demonstrate knowledge of food storage.	1. Food storage- basic concept, practices, food classification, factors, equipments	1. Visit any f food storage unit to observe storage of different types of foods.	7
2. Demonstrate methods of food preservation	1. Food preservation-methods, importance, conservation of nutrients	1. Enlist methods of food preservation nearby surrounding and discuss in group.	14
3. Identify spoiled/decayed food and follow preventive measures	1. Food microbiology-micro-organism, types, growth factors, food spoilage, signs of decays, preventive measurements	1. Collect pictures of spoiled foods and note its underlying causes	14
Total			35

Sub Unit 5: Emergency Medical Response and First-Aid			
Learning Outcome	Theory	Practical	Duration (20 Hrs)

Sub Unit 5: Emergency Medical Response and First-Aid			
1. Measure vital signs of body	1. Measuring vital parameters of the patients: temperature, pressure, Pulse rate etc	1. Perform Temperature, blood pressure, pulse rate measurement in group activity and record it properly.	5
2. Perform first-aid and handle food related emergencies	1. First-aid- basic, articles and equipments required, performing first-aid to injured person, food related emergencies.	1. Perform cradles and drag method of lifting 2. Apply different types of tags of triage	5
3. Demonstrate the knowledge of basic life supports	1. Medical emergencies- types and response, basic life supports, chain of survival	1. Prepare chart and poster for basic life support.	5
4. Perform CPR and rescue injured patients	1. Checking for injuries, transportation of patients, triage system CPR, rescue of child,	1. Perform CPR in group activity and rescue of child.	5
Total			20

6. ORGANISATION OF FIELD VISITS

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

Visit a Hospital and observe various activities of the nurses on daily schedule basis. Also observe the following activities at Hospital:

1. Front office activities
2. Reception and registration activities
3. Disinfecting wards and equipments
4. Various activities related to patient care
5. Demonstration of First Aid
6. To observe the various safety measures
7. To take firsthand knowledge of Bio medical waste Management
8. Observe the demonstration of Hospital record keeping
9. Diet Clinics
10. Primary Health Centre

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.

1. Food preparation lab
2. Sinks for utensil washing
3. Food Trolley
4. Storage cupboards
5. Refrigerator
6. Cooking gas and burners & lighters
7. Microwave
8. Dinning utensils
9. Measuring cups
10. Weight machine for food-10-50 gram sensitivity
11. Blenderizers
12. Kitchen Utensils and Equipment
13. Measuring Spoons
14. Stadiometer
15. Measuring Tape
16. Gas burner
17. Cylinder
18. Common House hold measures
19. Flip books and models for Food Groups
20. Cutlery – cooking and serving
21. Storage and Garbage bins
22. Charts of food groups,
23. Dry and fresh cooking ingredients with storage
24. Computer and Internet access
25. Teaching board (Smart board)
26. Aprons and head scarfs
27. Gloves (disposable)
28. Liquid Soap Bottle
29. Nutritional brochures
30. Registers
31. Pens
32. Pencils/Eraser/Sharpener
33. Marker pens
34. Dusters
35. Paper
36. Cleaning Solution (Colin)
37. Scrubbers and Liquid soap
38. Tissues paper
39. Fire Extinguisher
40. Electric or Induction Cooking stove

8. TEACHER'S/TRAINER'S QUALIFICATION

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:

S. No.	Qualification	Minimum Competencies	Age Limit
1.	Graduation in Dietetics / Nutrition or Home Science with at least 1Year experience in teaching/working in as dietitian or in Dietary Department OR Graduation in any stream of biological/life Sciences(BSc) with Diploma in Nutrition/Dietetics having 01 year of experience of teaching/Dietitian	<ul style="list-style-type: none"> • Effective communication skills (oral and written) • Basic computing skills. • Technical competencies (e.g., Should be able to perform and train the patient related skills 	18-37 years (as on Jan. 01 (year) Age relaxation to be provided as per Govt. rules.

Vocational Teachers/Trainers form the backbone of Vocational Education being imparted as an integral part of Samagra Shiksha. 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 organisations 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:

- a) Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;
- b) Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;
- c) Make effective use of learning aids and ICT tools during the classroom sessions;
- d) 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;
- e) Work with the institution's management to organise skill demonstrations, site visits, on-job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;
- f) Identify the weaknesses of students and assist them in upgradation of competency;
- g) Cater to different learning styles and level of ability of students;
- h) Assess the learning needs and abilities, when working with students with different abilities
- i) Identify any additional support the student may need and help to make special arrangements for that support;
- j) 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.

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Following parameters may be considered during the appraisal process:

1. Participation in guidance and counselling 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 upgradation 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. Organisation 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



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