CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2025-2026

MULTI SKILL FOUNDATION COURSE (SUBJECT CODE – 416)

JOB ROLE: MULTI SKILL ASSISTANT TECHNICIAN

CLASS – IX

INTRODUCTION:

Multi Skill Foundation Course (MSFC) - The Multi-Skill Foundation Course curriculum is broken down into coherent parts known as Units. Each unit is further broken down into knowledge and skills on the basis of which evidence is to be provided by the learner and the evaluation is to be done by the teacher or trainer. "Multi-Skill Foundation Course" (MSFC) is revised version of pre-vocational program V-1 "Introduction to Basic Technology", being implemented in Maharashtra since 1987.

Nature of the course: The course is divided into four modules: Workshop & Engineering Techniques, Energy & Environment, Gardening, Nursery and Agriculture Techniques, Food Processing Techniques (9^{th} class) / Personal Health & Hygiene (10^{th} class)

The Engineering (material-joining, shaping and otherwise fabricating into usable articles, including housing) and Energy-Environment (application of electricity, non-conventional energy and systems, processes, and tools- computers, management techniques). It also covers basics of engineering and project management. Home-Health (related to human life), and Agriculture (Plant and animal kingdom) give the skills related to clothing food and health of human beings. Agriculture covers the skill needed for production and preservation of food of both plant and animal origin, including care of plants/crops.

BENEFITS:

1. Multi-skill nature of the program helps students to select choice of his/her future specialization. He/she is a jack of all skills and will be enabled to select one for his/her future.
2. Most importantly, the variety of experiences students gets during "Multi-Skill Foundation' training will stimulate their intellect. Multidisciplinary knowledge will help him to appreciate underlying principles and processes and apply that knowledge in new areas.
3. All ground level work activities need multi skills. For e.g. farmer need to have basic knowledge of electricity, food processing, agriculture and even construction. This helps him to become self-reliant under adverse conditions. A fabricator, who gets orders for construction of poultry, will be in better position to serve his client if he knows basics of poultry. This helps to develop such kinds of interdisciplinary approaches with appreciation for other fields.

COURSE OBJECTIVES:

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

- Apply effective oral and written communication skills to interact with people and customers;
- Demonstrate the knowledge of constructional details and working of soak pit, and why wet and dry garbage needs to be separated.
- Demonstrate knowledge of land preparation / pot filling for cultivating a crop either on a plot of

land / terrace garden / in a pot

- Select healthy seeds for sowing; demonstrate the knowledge of basic seeds treatment.
- Demonstrate growing of one vegetable crop on a small plot / kitchen garden / terrace garden.
- Understand different breeds of animals – indigenous and breed variety.
- Determine age of the animal and their feed requirements.
- Demonstrate ability to estimate feed requirement, yield of the animal and its well-being (for any common animal/pet in the local area e.g. sheep, goat, poultry bird, cow/buffalo)
- Demonstrate soldering of basic electronics components using soldering iron.
- Maintenance of lead acid batteries, measuring its specific gravity.
- To demonstrate understanding of electricity consumption of various household electric fittings and kitchen equipment's and calculate monthly electricity unit's usage by a family.
- Demonstrate knowledge of electricity saving measures
- Demonstrate measurement capability using different measuring instruments such as meter tape, Vernier Calliper, and screw Gauge. Able to measure different jobs in the surrounding environment viz. furniture, building dimensions etc.
- Identify tools and equipment used in the Engineering workshop section.
- Demonstrate safe use and application of workshop tools and equipment.
- Install simple pipe line connection using PVC pipes, connectors and other plumbing accessories;
- Identify various tools and equipment required in the section and their usage.
- Demonstrate the understanding of safety measures required to be taken while using electrical and electronic tools and equipment.
- Perform various types of joints for joining electrical wires.
- Demonstrate basic knowledge of cooking and baking using a recipe with basic kitchen equipment.
- Demonstrate the knowledge of preserving foods using simple preservation techniques.
- Demonstrate and maintain personal hygiene& hygiene of cooking area
- Demonstrate safety measures to be observed in the kitchen.
- Understand concept of calories, calories in the locally available food, calories requirement of an adult and child.
- To be able to use & maintain different stoves viz. wick / pressure stove / LPG / smokeless Chula

CURRICULUM:

This course is a planned sequence of instructions consisting of Units meant for developing employability and Skills competencies of students of Class IX and X opting for Skills subject along with other subjects.

The unit-wise distribution of hours and marks for Class 9 & 10 is as follows:

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MULTI SKILL FOUNDATION COURSE (SUBJECT CODE: 416)
CLASS – IX (SESSION 2025-2026)

Total Marks: 100 (Theory-50 + Practical-50)

	UNITS	NO. OF HOURS for Theory and Practical 200		MAX. MARKS for Theory and Practical 100
Part A	**Employability Skills**			
	Unit 1 : Communication Skills-I	10		2
	Unit 2 : Self-Management Skills-I	10		2
	Unit 3 : ICT Skills-I	10		2
	Unit 4 : Entrepreneurial Skills-I	15		2
	Unit 5 : Green Skills-I	05		2
	Total	**50**		**10**
Part B	**Subject Specific Skills**	**Theory (In Hours)**	**Practical (In Hours)**	**Marks**
	Unit 1: Workshop and Engineering Techniques	20	10	30
	Unit 2: Energy and Environment	30	20	
	Unit 3: Gardening, Nursery & Agriculture Techniques	15	10	10
	Unit 4: Food Processing Techniques	15	10	
	Total	**90**	**50**	**40**
Part C	**Practical Work**			
	Practical Examination			15
	Project			15
	Viva Voce			10
	Total			**40**
Part D	**Student Portfolio**			
	Practical File/ Student Portfolio	10		10
	Total			**10**
	GRAND TOTAL	**200**		**100**

DETAILED CURRICULUM/TOPICS FOR CLASS IX:

Part-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-I	10
2.	Unit 2: Self-management Skills-I	10
3.	Unit 3: Basic Information and Communication Technology Skills-I	10
4.	Unit 4: Entrepreneurial Skills-I	15
5.	Unit 5: Green Skills-I	05
	TOTAL	**50**

NOTE: **Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website**.

Part-B – SUBJECT SPECIFIC SKILLS

- Unit 1: Workshop and Engineering Techniques
- Unit 2: Energy and Environment
- Unit 3: Gardening, Nursery & Agriculture Techniques
- Unit 4: Food Processing Techniques

UNIT 1 – WORKSHOP & ENGINEERING SECTION

LEARNING OUTCOMES	THEORY	PRACTICAL
1. Carry out measurement using instruments such as meter tape, Vernier caliper, and screw gauge, spring balance.	1. Describe the reason of selecting particular measuring instrument for certain task.	1. Selection of measuring instrument for given task. 2. To read the reading properly.
2. Recognize basic workshop tools and equipment and demonstrate their safe use	1. Describe the main features and purpose of workshop tools and equipment like screw driver, hammer, chisel, saw, spanners, wrench, etc. 2. Describe the safety precautions to be followed while using the tools.	1. Identification of workshop tools and equipment like screw driver, hammer, chisel, saw, spanners, etc. 2. Demonstration of safety gadgets 3. Cleanliness of the work area before and after
3. Prepare a simple wooden object like pad for writing/ newspaper holder, display	1. Describe advantages and disadvantages of Wood	1. Demonstrate the Marking of job 2. Demonstrate and perform the Sharpening of tools

LEARNING OUTCOMES	THEORY	PRACTICAL
board, stool, electric board etc.	2. Describe methods to prevent pest attack on wood	3. Demonstrate and perform Drilling hole in wood/plywood 4. Demonstrate and perform Fixing sun mica on plywood surface 5. Demonstrate and perform Finishing and polishing
4. Prepare a "Garbage Scoop" or “GI Sheet Box” (or any other article of need viz funnel, electric meter box, rain gauge) with GI sheet using soldering method	Describe safety precautions to be followed while preparing the article	1. Demonstrate and perform the article with given GI sheet according to given drawing/dimension using soldering method and following the relevant safety precautions 2. Draw a flow chart of this activity.
5. Carry out drilling of MS flat, Threading and tapping on a MS rod.	1. Describe use of thread 2. Describe safety precautions to be followed while drilling.	1. Perform Filing of rod and flat 2. Demonstrate and perform Carry of Marking for Drilling 3. Selection of appropriate tap, die and drill 4. Perform threading and tapping
6. Make any one of the following objects: Shoe stand, Candle stand, Hanger, Garbage collector, Tin box, Bangle stand using T-fillet joint, Open corner joint, Single V-butt joint	1. Describe safety precautions for making object 2. Describe the various types of material that can be used for making objects	1. Demonstrate and perform the design and drawing for the object 2. Perform the necessary measurement and marking as per the specifications 3. Students will observe & describe the process of welding carried out by the trainer for making the object as per the design & specification. (Students are not expected to carry out the process of welding but only observe by following due safety precautions) 4. Perform and Follow safety precautions 5. Demonstrate the use of personal protective clothing and equipment 6. Perform cleaning the work area before and after the task 7. Perform calculation of the cost of the article prepared
7. Identify building materials and describe their uses. Also identify tools required in construction work	1. Describe various type of building materials and its applications (like iron, wood, aluminum, cement, sand, concrete, granite, marble, paint,	1. Identification of various types of building materials

LEARNING OUTCOMES	THEORY	PRACTICAL
	chemicals, stone, cement composites, glass, plastics etc.) 2. Identify various types of construction tools and equipment and their purpose.	
8. Identify the various types of walls	1. Describe the chief characteristics of various types of walls (partition walls, exterior boundary walls, separation walls, retaining walls, shared walls, portable walls, dry stone walls, etc.)	1. Identification of different types of wall (building walls, exterior boundary walls and retaining walls)
9. Arrange bricks in different types of bond	1. Describe different types of bond and their application 2. Describe safety precautions while handling and laying of the brick	1. Demonstration to arrange bricks in different bonds (Stretcher bond, English bond, Flemish bond, Header bond, Stack bond). The bricks are arranged in the required formation uniformly for each of the bond up to 1 meter 2. Perform task of laying brick with mortar 3. Demonstrate and perform the use of spirit level, water tube and plumb bomb.
10. Make a simple pipe line by using plumbing accessories. Make sure that there is at least one joint.	1. Describe safety precautions while using piping material 2. Describe various components of plumbing accessories such as elbow bend, coupling, cock, primer, connector, etc.	1. Demonstrate and perform the process Cut PVC pipe with a hand saw 2. Perform the process to join PVC pipes with a connector & solution

UNIT 2 – ENERGY & ENVIRONMENT SECTION

LEARNING OUTCOMES	THEORY	PRACTICAL
1. Identify electrical tools and equipment, their usage and the safety measures to be taken	1. Read the symbols and describe their usage 2. Describe the purpose of symbols.	1. Perform match the symbols and description 2. Identification of various types of electrical tools and equipment.

LEARNING OUTCOMES	THEORY	PRACTICAL
while using them	3. Describe health and safety risks and procedures involved in the use of electrical tools, equipment and materials	3. Follows the manufacture's instruction for use. Clean the work area before and after the task
2. Identify the various types of wire, cable and switches	1. State the purpose of different types of wire, cable and switches.	1. Perform identification process to different types of wire, cable and switches.
3. Demonstrate the use of Standard/ American wire gauge	1. Describe the use of Standard/ American wire Gauge	1. Demonstrate the use of wire gauge for measuring the diameter of the Wire
4. Perform various types of joints used for joining electrical wires	1. Recognize the type of joints 2. Describe the purpose of using the following types of joint: • Simple Twist Joint • Straight Joint	1. Demonstrate the use of wire stripping hand tools for stripping wire 2. Demonstrate knife stripping of wire 3. Demonstrate the following for joining electrical wires: • Simple Twist Joint • Straight Joint 4. Demonstrate the use of plastic electrical tape 5. Perform cleaning the work area before and after the task
5. Prepare a simple electrical circuit	1. Explain the meaning of various terms used in simple circuit such as electrical potential difference/ voltage, conductive path, electrical resistance potential difference, transistor, conventional current, direct current, capacitor, attractive current, ohm's law, ohm's etc. 2. Describe the purpose of simple circuit	1. Prepare the diagram of a simple electrical circuit 2. Prepare a simple electrical circuit for operating one lamp by one switch and 2 lamps by two switches. 3. Perform process to connect two or more lamps in a series (without live connection) 4. Demonstrate and perform the process to connect two or more lamps in parallel (without live connection)
6. Demonstrate staircase wiring	1. Describe the factors to be considered for planning and executing staircase wiring 2. Identify the tools and materials to be used for staircase wiring	1. Draw a diagram of the circuit for staircase wiring method 2. Demonstrate staircase wiring (without live connection)

LEARNING OUTCOMES	THEORY	PRACTICAL
7. Demonstrate godown wiring	1. Describe the factors to be considered for planning and executing godown wiring 2. Identify the tools and materials to be used for staircase wiring	1. Draw a diagram of the circuit for godown wiring method 2. Demonstrate godown wiring method 3. Use the resources economically, safely and for intended purpose only
8. Demonstrate earthing	1. Explain the purpose of earthing 2. Describe the materials used for earthing 3. Describe the precautions to be taken while earthing 4. Describe the meaning of good earthing	1. Identify the materials used in earthing 2. Draw a diagram for earthing 3. Demonstrate earthing installation by using appropriate materials and tools
9. Demonstrate fuse fitting	1. Determine principle of fuse tripping 2. Describe different types of fuse wires	1. Demonstrate the use of different fuse wires
10. Recognize the main features of Miniature Circuit Breaker (MCB)	Describe the purpose of MCB 2. Describe the main features of MCB 3. Describe safety factors involved in MCB	1. Demonstrate with explanation on the structure and working of MCB
11. Demonstrate soldering of basic electronics components using soldering iron	1. Described purpose of soldering 2. Describe safely factors involved in soldering 3. Describe qualities of good soldering joint	Perform recognition of basic electronic component resistance, diode, transistors, and capacitors. 1. Demonstrate soldering of basic electronics components using soldering iron
12. Maintain lead acid batteries, Measuring its specific gravity	1. Describe various types of batteries and its comparison 2. Describe what is “specific gravity” and why is it important?	1. Demonstrate maintenance of lead battery and measuring of specific gravity
13. Calculate monthly electricity unit consumption of a family using combination of lighting and kitchen equipment (blub, tubes, mixer, water heater etc.) **14.** Demonstrate knowledge of electricity saving measures.	1. Describe the unit of electricity and method to measure the consumption	1. Perform calculation of electricity bill for a given the load

LEARNING OUTCOMES	THEORY	PRACTICAL
15. Describe the advantages of different lighting solutions.	1. Describe the different types of lights, their advantages and disadvantages. 2. Describe the benefits of using LED bulb 3. Estimate the cost	1. Perform reading wattage of bulb. 2. Select appropriate solution for required light. 3. Selecting appropriate
16. Recognize the various features of and describe the working principle of soak pit	1. Explain the purpose and working principle of soak pit 2. Describe advantages and disadvantages of soak pit 3. Describe the applications of soak pit	1. Demonstrate and draw a diagram showing the various elements of soak pit 2. Perform the preparation of a soak pit
17. Identify the various types of garbage and explain the general procedures adopted for disposal of garbage in cities and rural areas	1. Describe the various types of garbage and methods used for their disposal 2. Explain the purpose of garbage separation and its processing 3. State the various precautions to be taken when separating and processing garbage for Disposal	1. Demonstrate the knowledge of appropriate methods used for disposal of different types of garbage – biodegradable and non-biodegradable, toxic materials, infected materials, radioactive materials, etc.

UNIT 3 – GARDENING, NURSERY & AGRICULTURE TECHNIQUES (PART A)

LEARNING OUTCOMES	THEORY	PRACTICAL
1. To learn to prepare land, or filling of pot **2.** To learn to take one crop using agriculture tools and standard agri. practices.	1. To describe steps taken in taking one crop. 2. To describe principles behind the basic agricultural procedures.	1. Perform the growing one crop and do all tasks given below to achieve agriculture produce.
3. Calculate the amount of seed/plants for the area	1. Describe the procedure for calculating the amount of seed/plant material for an area	1. Demonstrate the knowledge of calculating the amount of seed required for an area
4. Demonstrate to treating of seeds with traditional method/ biological agents/ chemicals/ fertilizers	1. Describe precautions to be taken when selecting seeds 2. Describe advantages of seed treatment.	1. Perform the selection of seed treatment method for selected crop using krishi Diary. Perform seed surface treatment 2. Demonstrate to treat seeds with recommended method.

LEARNING OUTCOMES	THEORY	PRACTICAL
5. Perform planting of seeds and intercultural operations (weeding, fertilizer application, mulching etc.)	1. Describe the uses of various tools and equipment in intercultural operations (weeding, fertilizer application, mulching etc.)	1. Demonstrate the use of various tools and equipment in intercultural operations (weeding, fertilizer application, mulching etc.)
6. Prepare vermin composting and vermin wash	1. Describe use & advantages of vermin compost and vermin wash.	1. Demonstrate preparing of bed for Vermin composting. 2. Perform process to prepare bed for preparing vermin wash. 3. Perform the use of vermin compost and vermin wash in the plot.
7. Prepare organic pesticide formulation.	1. Describe procedure to make organic pesticide formulation. 2. Advantages of using organic pesticide.	1. Demonstrate organic preparing pesticide formulation. 2. Perform the process to apply them if there is a problem.

UNIT 3 – GARDENING, NURSERY & AGRICULTURE TECHNIQUES (PART B)

LEARNING OUTCOMES	THEORY	PRACTICAL
1. Determine the age of animals	1. Describe the methods of determining age of animals 2. Describe advantages of knowing age of the animal.	1. Process to determine the age of farming and milking animals
2. Determine the weight of animals to estimate feed requirement	1. Perform and describe the method of determining weight of animals and estimating feed requirement	1. Process to determine weight of animals by taking due precautions 2. Perform the calculation of fodder requirement of animal from TDN in different folder.
3. Understand different diseases of domesticized animals	1. Describe the different types of diseases observed in domesticized animals 2. Methods of identification of diseases	1. Process to identify different types of diseases. 2. Demonstrate methods of identification of different domesticated animals
4. Determine ability to estimate feed requirement for animals	1. Describe the method of determining the quantity of feed requirement of different types of animals.	1. Perform the calculation to estimate feed requirement of an animal by their age. 2. Perform the calculation to estimate of feed requirement of an animal by

LEARNING OUTCOMES	THEORY	PRACTICAL
	2. Describe the different types of feeds	their weight. 3. Perform the calculation to estimate feed requirement of a milk giving Animal
5. Determine yield of animal and its well-being	1. Describe the yield of animal according to geographical area 2. Describe different types of domesticized animals and their importance. 3. Describe how to ensure wellbeing of domesticized animals	1. Demonstrate method of determining yield of domesticized animal
6. Determine costing of Milk and milk products in a household business	1. Describe the process of costing of milk and milk products 2. Describe the difference between household business and commercial establishment	1. Perform the calculation for cost of milk 2. Perform the calculation for the cost of different types of milk products which can be produced in a household
7. Learn window / balcony gardening	1. Describe the process of window/balcony gardening	1. Describe the process of window/balcony gardening

UNIT 4 – FOOD PROCESSING TECHNIQUES

LEARNING OUTCOMES	THEORY	PRACTICAL
1. Able to prepare food items using safe and appropriate procedure.	1. Describe various methods of food preservation (salting, pickling, drying, smoking, preserving in brine water, etc.) 2. Describe principles behind basic preservation technique viz. use of high or low temperature, exclusion of air, removal of moisture, use of preservatives, etc. 3. Describe importance of maintaining hygiene in cooking area.	A) Demonstrate making of following food items as per the standard procedures given in following rows 1. Chikki 2. Sauce 3. Jam and Jelly 4. Dried product, roasted product viz. Papad, dried vegetables 5. Pickle 6. Biscuits 7. Popcorn B) Perform the calculation for the costing of these food items.

LEARNING OUTCOMES	THEORY	PRACTICAL
2. Identify the basic characteristics of raw food materials and apply cleaning and sanitation method	1. Describe the basic characteristics of raw food materials 2. Describe the basic principles and practices involved in cleaning and sanitation in food processing operations	1. Perform and apply the basic principles and practices of cleaning and sanitation of food while preparing all above food product. 2. Demonstrate the use of personal clothing for working in food processing area such a headgear, apron, gloves, etc.
3. Identify and handle utensils and equipment used in cooking and baking	1. Describe the safety precautions to be taken for using utensils and equipment (measuring cups, spoons, knife, cutting board, frying pan, grate, etc.)	1. Demonstrate the use of knife/mixer/oven/ stove / gas. 2. Identify various flavors and uses of various spices, herbs, grains and greens 3. Perform the cleaning of the utensils and work area after cooking
4. Apply appropriate cooking methods for preparation of various culinary	1. Describe various methods of wet, dry and combination cooking methods 2. Read the names of vegetables, grains, spices, herbs, etc. used in preparation of culinary	1. Demonstrate and adapt small recipes and cooking methods to prepare dishes 2. Perform and apply fuel conservation methods 3. Perform the cleaning of the utensils and work area after cooking
5. Identify food requirements of adolescent male and female	1. Describe daily food requirement (nutrient) of adolescent male and female	1. Prepare a diet chart to meet the nutrient requirements of adolescent male and female from locally available food
6. To demonstrate understanding of information on the packaging label & packaging of food products.	1. Describe food label. 2. Describe advantages of different food packaging types. 3. Describe shelf life and factors affecting shelf life of food items.	1. Demonstrate on how to interpret food label 2. Perform process to take weight and packaging of food product using sealing method. 3. Identify various different food packets
7. Demonstrate the knowledge of methods of identifying adulteration.	1. Describe the methods of assessing adulteration.	1. Demonstrate detection of adulteration in milk& its product with the use of lactometer and other appropriate technique 2. Demonstrate other method of detecting adulteration in other food products.