

**STRUCTURE OF QUESTION PAPER
FOR
PRE-VOCATIONAL SUBJECTS
9TH CLASS**

Time : 2 hrs.

Time : 3 hrs

**THEORY
PRACTICAL**

Marks : 25

Marks : 45

CCE : 30

Total Marks: 100

The question paper will comprise of three parts (Part-I, Part-II and Part-III). The question paper will be evenly distributed from the prescribed syllabus.

Part-I will consist of five objective type questions carrying one mark each. The answer of each question should not exceed more than one sentence.

Part-II will consist of seven short answer type question carrying three marks each. Candidate will attempt any five questions out of these. A question may have two and more parts. The answer of each question should not be more than one page of the answer sheet.

Part-III will consist of two questions carrying five marks each. Candidate will attempt any one question out of these. A question may have two and more parts.

The answer of each question should not be more than two pages of the answer sheet.

STRUCTURE OF QUESTION PAPER FOR PRACTICAL

Time: 3 hrs

Maximum Marks: 45

Distribution of marks will be as follows:

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|---|----------|
| (i) Practical note book/sessional work/visits/project work. | 5 Marks |
| (ii) Viva Voice | 5 Marks |
| (iii) Actual Performance | 35 Marks |

Major Practical:

In all, three practical will be asked from the prescribed syllabus. Candidate will be asked to choose any two out of these. The Practical examiner will ask the candidate to perform any one practical out of the two chosen by him. 20 Marks

Minor Practical:

In all, three practical will be asked from the prescribed syllabus. Candidate will be asked to choose any two out of these. The Practical examiner will ask the candidate to perform any one practical out of the two chosen by him. 15 Marks

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

COURSE: MANUFACTURING OF SPORTS GOODS

CLASS: IX

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Meaning, scope and importance of sports goods.	The pupil understands the meaning, scope and importance of sports goods.	Lectures, discussion, visit to sports goods industry, exhibitions.	20
2.	Classification of Sports goods and its basis.	The pupil knows the classification of sports goods and understands the basis of classification.	-do-	08
3.	Raw materials used in wood, leather and synthetic based sports goods industry.	The Pupil i. Knows and enlists the raw materials used in the manufacture of sports goods. ii. Can group the sports goods into different classes based on the raw materials.	-do-	10
4.	Concept of workshop/factory, its components, workshop discipline and safety precautions	The pupil i. describes a workshop/factory ii. has the idea of its components. iii. knows about the safety precautions iv. understands workshop discipline and describes it. v. can express the harm and danger of not observing safety precautions.	Lectures, discussion, visits	06
5.	Introduction to the tools used in sports goods industry.	The pupil i. names the tools used in sports goods industry. ii. describes their particular uses.	Lecture, discussion, display, demonstration, visits to industrial units.	20
6.	Production of football and carom board: (a) Drawing and designing. (b) Raw material	The pupil i. knows and describes how football and carom board goods are manufactured. • Understands and reproduces the drawing and designs of football and carom	Lecture, discussion, display, demonstration, visits to industrial	20

	(c) Tools (d) Steps of production (e) Approved specifications and standard. (f) Finishing	board. <ul style="list-style-type: none"> recognizes and enlists the material and tools employed in the production of football carom board. enlists different steps of production of football and carom board. understands and enlists the approved specifications of football and carom board understands how to finish the produced goods. knows the precautions to be observed during production. 	units. -do-	04 04 04 02 04
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PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Identification and use of tools.	The pupil <ul style="list-style-type: none"> identifies tools acquires skills to use the tools draws the sketch of rasp, file, adze, awls, rampi, saws and hammer. 	Demonstration & Learning by doing	20
2.	Sharpening of tools.	The pupil sharpens adze, awls, rampi and saw taking necessary precautions.	-do-	20
3.	Exercise in marking, sawing and planning size and shape.	The pupil acquires skills in marking, sawing and planning to size and shape.	-do-	20
4.	Marking a football of standard specifications: <ul style="list-style-type: none"> Marking of pattern to make panels. Cutting of panels. Economical adjustment Stitching Reversing 	The pupil acquires skills to make a football in appropriate sequence of steps.	-do-	70

5.	Making of carom board of standard specifications: i. Joining of four sides to make a square. ii. Fixing of ply iii. Planning of surface. iv. Polishing, coloring and drawing lines, circle and arrow heads etc. v. Making corner holes. vi. Finishing	The pupil acquires skills to make a carom board in appropriate sequence of steps:- i. Joining of four sides to make a square. ii. Fixing of ply iii. Planning of surface. iv. Polishing and coloring. Drawing line, circle and arrow heads etc. v. Making corner holes. vi. Finishing	-do-	70
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PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

COURSE: MANUFACTURING OF LEATHER GOODS

CLASS: IX

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Introduction to the trade, its importance and scope.	The pupil i. knows about the trade ii. understands the scope and importance of the trade.	Lecture, discussion, visits to factories	08
2.	Natural leather, its sources and characteristics.	The pupil i. knows what natural leather is and what its sources are. ii. can describe the characteristics of natural leather.	Lecture & demonstration	08
3.	Workshop discipline and safety precautions.	The pupil i. knows about the safety precautions. ii. understands workshop discipline and can describe it. iii. can express the harm and danger of not observing safety precautions.	Lectures, visits to workshop	10

4.	Introduction to the raw materials used in the trade; Natural leathers, Synthetic leather and their comparison.	The pupil i. can identify natural and synthetic leather. ii. can compare the two types of leather.	Lecture, demonstration	10
5.	Introduction to the tools and equipment used in the trade; their care and maintenance.	The pupil i. can name the tools and machines. ii. can describe the specific functions of tools and machines. iii. understands regarding the care and maintenance of tools and equipment/machines.	Lecture, demonstration	10
6.	Pattern cutting and designing: Method of pattern cutting of simple articles i.e. key case, watch strap, pocket purse, goggle case, simple bel.	The pupil knows the method of drafting and pattern cutting of simple leather goods.	Lecture, demonstration	30
7	Classification of leather, structure of hides and skins, brief introduction to the tanning process.	The pupil i. knows which part of the leather is suitable for which purpose and can draft accordingly. ii. understands the structure of hides and skins. iii. knows briefly about the tanning process.	Lecture, demonstration	12
8	Various types of adhesives and grinderies used in the manufacturing of leather goods.	The pupil i. knows the varieties of adhesives and their specific uses. ii. can name and recognize the grinderies.	Lecture, demonstration	12

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Identification of different types of leather.	The pupil identifies different types of leather.	Demonstration, Learning by doing	20
2.	Identification of tools used in the manufacturing of leather goods.	The pupil identifies various tools used in the manufacturing of leather goods.	Demonstration, Learning by doing	20

3.	Making and stiches on natural and synthetic leather.	The pupil acquires workable skill of making stiches on natural and synthetic leather by hand.	Demonstration, Learning by doing	20
4.	Skiving on natural leather.	The pupil acquires workable skill of skiving on natural leather as per need.	Demonstration, Learning by doing	20
5.	Pattern cutting of the following: i. Key case ii. Watch strap iii. Goggle Case iv. Pocket Purse v. Simple waist belt	The pupil acquires workable skills in pattern cutting of simple leather goods.	Demonstration, Learning by doing	40
6.	Preparation of simple leather goods, i.e. key case, Watch Strap, Waist belt & Goggle case.	The pupil acquires skill to prepare simple leather goods, i.e. key case, Watch Strap, Waist belt & Goggle case.	Demonstration, Learning by doing	80

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

COURSE: COMPUTER SCIENCE

CLASS: IX

Sr. No. 1	CONTENT/ACTIVITIES 2	LEARNING OUTCOMES 3	TEACHING/LEARNING METHODOLOGY 4	TIME REQUIRED (Periods) 5
1.	Computer Fundamentals. Avenues of Computer Education in self employment, Semi Govt. and Govt. organizations. Definition of a Computer, Computer components, Characteristics of Computers, Hardware and Software definitions, bit, byte, word, location.	The pupil: i. understands, knows the avenues of computer education in employment. Defines a Computer and Computer Components. ii. understands and differentiates the characteristics of computers, hardware and software. iii. understands and defines bit, byte, word, location.	Explanation, Demonstration and applications.	2

2.	Computer peripherals. i. Input devices: Keyboard, Mouse, Joystick, OMR, OCR, Floppies, Tape, Hard Disk. ii. Output devices: Video Display Unit, Printer, Plotter, Computer Output Microfilm.	The pupil understands, differentiates and names input and output devices.	Demonstrating different I/O devices.	4
3.	Computer Languages. Definition and usage of machine language, Assembly and High Level Languages, e.g. BASIC, COBOL, Fortran, Compiler, Interpreter.	The pupil understands and defines machine Languages and their use.	By reference to small programs written in various languages.	2
4.	Flow Charts. Advantages and limitations, symbols used, simple flow charts to find biggest, smallest and averages; arithmetic series, file handing etc.	The pupil: a) Understands and reads the flow charts, their advantages and limitations. b) Understands and identifies symbols used in simple flow charts.	Sample flow charts and Exercises.	20
5.	Introduction to MS-DOS. Simple commands like dir, type, copy, print, mkdir, chdir, rmdir and various switches, Edit command.	The pupil knows and differentiates simple commands.	Demonstration followed by practical training.	16
6.	Word Star. Introduction to various features like word-wrap, Justification, Bold-face, Underline, Superscript, Subscript, Block movement, Edit Menu, On-screen, Quick Block, Help Menu, Mail-merge, Spell-star, dot commands.	The pupil gives evidence of having learnt typing, documents, editing, formatting, correcting spelling and printing.	Demonstration followed by practical training.	20

7.	BASIC LANGUAGE: Constant, Variable, Expression. REM statement, Input-output statements, Exercises. Looping, branching and transfer of control. IF....THEN.....EISE FOR...NEXT Loop Subscripted variables and arrays. Functions and Built in functions, String functions. Printing using CHP\$ functions Random number generation-The RND function.	The pupil grasps and uses the BASIC Languages.	Sample program and practical training, Exercises.	36
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PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Introduction to MS-DOS. Simple commands like dir, type, copy, print, mkdir, chdir, rmdir and various switches, Edit command.	The pupil does basic operations and file editing.	Demonstration followed by practical training.	50
2.	Windows File Manager, Print Manage; Paint Brush, Note pad, Write etc.	The pupil does Computer Operations through GUI (Graphical User Interphase).	Demonstration followed by practical training	20
3.	Word Star. Introduction to various features like word-wrap, Justification, Bold-face, Underline, Superscript, Subscript, Block movement, Edit Menu, On-screen, Quick Block, Help Menu, Mail-merge, Spell-star, dot commands.	The pupil type documents, edits, make formattings, corrects spelling and printing etc.	Demonstration followed by practical training.	50

4.	BASIC LANGUAGE: Constant, Variable, Expression. REM statement, Input-output statements, Exercises. Looping, branching and transfer of control. IF....THEN.....EISE FOR...NEXT Loop Subscripted variables and arrays. Functions and Built in functions, String functions. Printing using CHP\$ functions Random number generation-The RND function.	The pupil implements simple problem solving algorithms..	Sample programs and practical training, Exercises.	80
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PRE-VOCATIONAL CURRICULUM

Time: 2 hrs
Time: 3 hrs

Theory: 25 Marks
Practical: 45 Marks
CCE: 30 Marks
Total: 100 Marks

COURSE: ELECTRONIC TECHNOLOGY

THEORY
CLASS: IX

1	2	3	4	5
Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1.	Fundamentals OF ELECTRICITY: i. Introduction to electricity, its sources, applications, various electrical quantities like voltage, current, resistance, power and energy. ii. Types electricity; AC & DC; difference between the two and magnetic effect of current. iii. Cells and Batteries; dry cell and lead acid batteries.	The pupil knows about electricity. The pupil knows about batteries and cells	Lecture Lecture and demonstration	10 10
2.	i. Resistance:- Definition, units, types, parallel and series circuits and Ohm's law. ii. Capacitors:- Definitions, units and types. iii. Inductors:- Definitions. Units and types.	The pupil has the knowledge of resistors, capacitors and inductors and their application.	Lecture and demonstration	10

3.	Vacuum tubes; basic idea of diode, triode and pentode valves.	The pupil has the basic knowledge about vacuum tubes used in electronics.	Lecture and demonstration	5
4.	Semiconductors and conductors; pure and impure semiconductors.	The pupil understands semiconductor theory after the valve theory.	Lecture and demonstration	5
5.	Rectification: Definition and types of rectification.	The pupil knows the difference between AC and DC voltages.	Lecture and demonstration	10
6.	Modulation: Definition, types and its necessity.	The pupil knows about AM & FM wave shapes.	Lecture and demonstration	5
7.	Amplifiers & Oscillators; Definition, types and their use in receivers.	The pupil knows about Amplifiers and Oscillators.	Lecture and demonstration	20
8.	Block diagram of AM transistor radio receiver, function of each block; circuit diagram of pocket transistor radio receiver, its tuning and aligning with the help of RF/AF signal generator. Fault finding in pocket radio Rx.	The pupil knows about transistor radio receiver. Learns use of signal generator for tuning radio receiver.	Lecture and demonstration	25
9.	Introduction of record-player and tape-recorder system. Block diagram of tape-recorder with brief description. Study of microphone and loud-speaker.	The pupil knows about tape recorder and public address-system.	Lecture and demonstration	10

PRACTICAL

1	2	3	4	5
Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1.	Introduction to radio tools.	The pupil recognizes radio tools and uses them properly.	Demonstration, Learning by doing.	4
2.	Soldering practice.	The pupil learns soldering joints & POB. Practically.	Practice, guidance	15
3.	Use of all type of multi-meters. Measuring ACV, DCV, resistances; Capacitors; Transformers etc.	The pupil learns detailed use of instruments mentioned in column 2.	Practice and demonstration	20
4.	Assembling power extension board (simple).	The pupil understands house wiring.	Demonstration	20
5.	Identification of different type of resistors.	The pupil measures the value of resistances.	Demonstration, Learning by doing.	15
6.	Identification of passive electronic components.	The pupil recognizes various types of resistances, capacitors, inductors, transformers and acquires skill to test them with multi-meter.	Demonstration, Learning by doing.	20

7.	Identification of active electronic components. <ul style="list-style-type: none"> • checking with multi-meter • to final out their leads. 	The pupil identifies Diodes, Transistors, Zener diodes, SCR and IC's.	Demonstration, Learning by doing.	20
8.	Checking and repair of micro-phones and loud-Speakers.	The pupil acquires elementary skill to detect faults and repair L/S & microphones.	Demonstration, Learning by doing.	15
9.	Identification of electrical and electronics home appliances; precautions while using them.	The pupil recognizes electrical and electronic home appliances; knows about precautions for their proper use.	Demonstration, Learning by doing.	10
10.	To assemble a row of bulbs for decoration purpose (Parallel and Series).	The pupil practically learns about parallel and series connections, electricity load.	Demonstration, Learning by doing.	
11.	To assemble medium wave transistor radio receiver (AM) its alignment and tuning.	The pupil practically learns about components, soldering on POB, use of RF/AF signal generator.	Demonstration, Learning by doing.	30
12.	Preparation of charts: i. Electronic devices/symbols. ii. Electrical symbols. iii. Radio tools models/symbols.	The pupil understands difference between electrical and electronic devices and tools.	Demonstration, Learning by doing.	20

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

COURSE: GARMENT TECHNOLOGY

**THEORY
CLASS: IX**

1	2	3	4	5
Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1.	Scope & importance of garment technology	The pupil understands the scope and importance of garment technology trade.	Narration and discussion	03
2.	Tools and equipment needed in garment making, their proper use and care.	The pupil: i. Enlists different tools and equipment used in garment making. ii. Understands the use and utility of each tool and equipment. iii. Knows the way of its proper care and maintenance.	Description and showing of actual tools & equipment in the class.	08

3.	Study of child's body with reference to skeletal muscles and organs, their growth and movement. Necessary consideration in making of garments.	The pupil: i. Understands the basic structure of child's body and movements of various organs. ii. Understands the consideration of making garments viz-a-viz the child's body.	Exposition with charts.	10
4.	Sewing machine- Description of parts, operation and adjustments-uses, care and maintenance.	i. The pupil enlists different parts of sewing machine. ii. knows operation and makes various adjustments. iii. Uses, cares and knows about maintenance of the machine.	Lecture and demonstration	12
5.	Needles- their numbers, sizes and uses.	The pupil knows and identifies various numbers and sizes of needles and their uses.	Charts and Lecture	08
6.	Threads-Types, proper colour, size and numbers used for various fabrics.	The pupil classifies and identifies the different types, sizes and numbers of threads and their use for various fabrics.	Lecture Actual threads and charts.	13
7.	Necessity and selection of various fasteners like snap hooks, buttons and eyelets.	The pupil understands the importance and need of various fasteners and their selection.	Actual buttons snap hooks and eyelets.	12
8.	Importance of darts, tucks and pleats for proper fitting, their use in garments of different types and precautions to be taken.	The pupil understands the importance and use of darts, tucks and pleats for proper fitting of various garments.	Exposition, charts showing darts, tuck and pleats.	16
9.	Different types of seams and their uses.	The pupil knows and identifies different types of seams and their uses.	Lecture and Demonstration	06
10.	Different types of basic stitches and their uses.	The pupil understands and knows the basic stitches and their uses.	Lecture and Demonstration	06
11.	Different types of sleeves and their uses in various garments.	The pupil knows regarding the different types of sleeves and their uses in various garments.	Lecture and Demonstration	06

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Identification of tools, equipment and accessories used in garment technology.	The pupil: i. enlists various tools, equipment and accessories in garment technology. ii. identifies various tools and equipment	Actual showing of tools, equipment and accessories in the class.	14
2.	Sewing tools- use and care of needles, pins, thimble, tape, measuring rules, squares, adjustable gauge skirt makers yard stick, French curve etc.	The pupil identifies and enlists different sewing tools.	Actual showing of tools in the class.	12
3.	Marking tools: Use of tracing paper, trading wheel, tailor chalk, graduate square.	The pupil identifies various marking tools.	Actual showing of marking tools in the class.	10
4.	Miscellaneous sewing tools: Bodkin, buttons, eyelets, electric iron, steam iron etc.	The pupil: i. identifies different types of buttons and eyelets. ii. uses electric iron and steam iron.	Actual showing of sewing tools in the class.	
5.	Sewing Machines- identification of different parts of sewing machine, treadle operated machine, its operation, cleaning and lubrication.	The pupil identifies different parts of sewing machine and knows its operation, lubricates, and cleans it.	Demonstration	18
6.	To make samples of basic stitches, a) Basting b) running c) Hemming d) Buttons holes stitch	The pupil makes samples using Basting Running, Hemming and Buttonhole stitch.	Demonstration and actual practice by students	20
7.	To make samples by fixing: i. snap hooks and eyelets ii. Buttons and making button hole.	The pupil prepares samples by fixing snap hooks and eyelets, button and makes button holes.	Demonstration and actual practice by students.	18
8.	To make samples of different seams i. Simple seam ii. Run and fell iii. Flat and running seam	The pupil prepares samples using simple, run and fell, flat and running seam.	Demonstration and actual practice by students.	10

9.	Drafting, layout, estimation and stitching of i. Napkin ii. Panty iii. Jhabla iv. Simple frock	The pupil prepares i. Draft of all garments on a brown paper. ii. Traces it on the cloth iii. Cuts the garments iv. Finally stitches it	Demonstration and actual stitching of garments.	(10+10+18+34 = 72)
10.	To make sample of a patch pocket.	The pupil prepares a sample of patch pocket.	Demonstration and Actual doing	17

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

CLASS: IX

COURSE: ENGINEERING DRAFTING AND DUPLICATING

1	2	3	4	5
Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1.	Importance and scope of trade.	The pupil knows the Importance and scope of Engineering Drafting and duplicating trade.	Lecture and discussion	03
2.	Drawing : i. Drawing Instruments: Equipment i.e Drawing Board, Tee square, Set square clinograph, protractor, Parallel ruler, Instrument box. ii. Line, Lettering and Dimensioning: Different types of lines, standard sizes of drawing sheets, Margins, Title block, Folding and unfolding of drawing sheets. Scale:- Engineering scale and Architect scale Standard practice for writing with instruments and free hand vertical and inclined Lettering in	The pupil identifies, names the drawing instruments and tells their use. The pupil identifies different types of lines & names various drawing sheets, letters, Scales and dimensioning.	Demonstration. Teacher will show the drawing instruments. Demonstration & Explanation.	05 13

	<p>ratio 7:4, 5:4. Types of Dimensioning & arrangement of dimensioning.</p> <p>iii. Geometry:- Elementary problems on lines, angles, triangles, quadrilateral, circles and polygons.</p>	<p>The pupil</p> <p>i. Identifies, recognizes, differentiates and names lines, angles, triangles, quadrilaterals, circles and polygons.</p> <p>ii. Solves elementary problems constructions and exercises and figures connected with above mentioned.</p>	<p>Demonstration and Explanation.</p>	<p>16</p>
3.	<p>Duplicating:</p> <p>i. Introduction of duplicating papers i.e. Carbon paper, Tracing paper, Blue printing paper, Ammonia printing paper, Photostat papers and Tracing cloth.</p> <p>ii. Knowledge of Machines:- Cyclostyle Machine, Photostat Machine (Xerox), Blue printing machine, Ammonia printing machine, Sunflame, Ammonia Box, Tracing Table.</p>	<p>The pupil</p> <p>i. Recognizes, names, differentiates different type of duplicating papers.</p> <p>The pupil:</p> <p>i. Recognizes, names and differentiates between different types of duplicating machines.</p> <p>ii. Knows the use of these machines</p> <p>iii. Knows safety precautions for handling these machines.</p>	<p>Demonstration and Explanation.</p> <p>Demonstration and Explanation.</p>	<p>16</p> <p>15</p>
4.	<p>Symbols and Conventions of Engineering Materials:</p> <p>i. Earth, Earth surface, Back files, Clay sand, Gravel, Rock surface, sand stone, Clay stone, Ashler, Grating, roads, Doors, Windows, Canals, Railway lines, Bridges, R.C. Brick work, School.</p> <p>ii. Bulb, Tube, Fuse, Earthing, Plug, Sockets, Switch, Cell, Battery, Conductor, Resistance, Capacitance, Inductance,</p>		<p>Demonstration and Explanation.</p>	<p>11</p>

	<p>Ammeter, Bell, Buzzer, Fans Regulator, Loud Speaker.</p> <p>iii. Serve threads, springs, knurling, holes of linear, pitch, Holes of circular pitch, gears, bearings, gun metals, mild steels, copper, aluminum, lead, zinc, white metal, brass, bronze, asbestos, rubber, glass, steel, wood.</p>			
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PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Fixing of drawing sheets.	The pupil fixes correctly & firmly the drawing sheet on the drawing board.	Demonstration and Actual practices by students.	08
2.	To draw the layout or drawing sheets.	The pupil draws the layout of the drawing sheet.	Demonstration and Actual practices by students.	08
3.	To prepare the title block.	The pupil prepares the title block.	Demonstration and Actual practices by students.	10
4.	To draw different types of lines.	The pupil draws different types of lines.	Demonstration and Actual practices by students.	08
5.	To draw single structure vertical lettering and numbers.	The pupil draws single stroke vertical lettering and numbers.	Demonstration and Actual practices by students.	10
6.	To draw single stroke inclined lettering and numbers.	The pupil draws single stroke inclined lettering and numbers.	Demonstration and Actual practices by students.	10
7.	To draw free hand vertical and inclined lettering and numbers.	The pupil draws free hand vertical and inclined lettering and numbers.	Demonstration and Actual practices by students.	10
8.	To cut, fold and unfold drawing sheets.	The pupil cuts, folds and unfolds the drawing sheets.	Demonstration and Actual practices by students.	08

9.	To draw engineering scale and architect scale.	The pupil draws engineering scale and architect scale.	Demonstration and Actual practices by students.	10
10.	To draw different types of arrows and method of dimensioning.	The pupil draws different types of arrows and method of dimensioning.	Demonstration and Actual practices by students.	10
11.	To draw different types of angles.	The pupil draws different types of angles.	Demonstration and Actual practices by students.	10
12.	To draw different types of triangles.	The pupil draws different types of triangles.	Demonstration and Actual practices by students.	12
13.	To draw different types of quadrilaterals.	The pupil draws different types of quadrilaterals.	Demonstration and Actual practices	12
14.	To draw different types of circles.	The pupil draws different types of circles.	Demonstration and Actual practices	12
15.	To draw different types of polygons.	The pupil draws different types of polygons.	Demonstration and Actual practices	12
16.	To identify tracing paper, tracing cloth, blue print paper, Ammonia print paper and Photostat paper.	The pupil identifies different types of papers.	Demonstration and Actual practices	10
17.	Symbols and Conventions (Minimum three sheets) should be prepared on above concept.	The pupil prepares sheets of various symbols and conventions.	Demonstration and Actual practices	12
18.	Free hand drawing (plan) of your institutions.	The pupil prepares a free hand drawing of their institutions.	Demonstration and Actual practices	14
19.	Study of the working of following machines i.e. Cyclostyle, Photostat (Xerox), Blue printing, sun-flame, Ammonia.	The pupil studies the working of machines cyclostyle, Photo-state (VEROX), Blue Printing, Sun-flame, Ammonia and works on the machine.	Demonstration and Actual practices	14

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

COURSE: FOOD PRESERVATION

THEORY

CLASS: IX

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Concept of: a. food technology food, nutrition, food science, preservation, food microbiology. b. Entomology, Processing, storage etc.	The pupil knows, defines, differentiates and compares various terms related to food technology.	Lecture and description	20

2.	Various food groups-meat and meat products, milk and milk products, Cereals, Pulses, Fruits, Vegetables, Sugar, Jaggery, ghee & oils.	i. Pupil understands the classification of food groups. ii. Differentiates between foods and classifies them into groups.	Lecture and description	10
3.	Nutritional significance of various food groups.	The pupil knows and expresses the importance i.e. Nutritive values of different foods.		25
4.	Need and principles of food preservation.	The pupil understands the concept of preservation and its need.	Lecture and description	10
5.	Methods of food preservation i. Use of high temperature ii. Use of low temperature iii. Sun Drying iv. Pickling v. Use of chemical preservatives	The pupil knows, enlists and differentiates between the various methods used in food preservation.	Lecture and description	25
6.	Concept and importance of Hygiene and Sanitation in food preservation and its use.	The Pupil knows and expresses different Sanitary requirements for food preservation.	Lecture and description	10

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Preparation of charts and posters for various food groups.	The pupil prepares charts and posters for various food groups.	Actual preparation of charts by students.	20
2.	Sterilization of bottles and containers.	The pupil sterilizes bottles and containers in the class.	Demonstration & actual practice by students.	20
3.	Pasteurization and sterilization of milk.	The pupil actually sterilizes and pasteurizes and pasteurizes milk in the class.	Demonstration & actual practice by students.	20
4.	Preparation of Fruits and Vegetables for refrigeration Washing, drying, packing and storage.	The pupil learns to properly wash, dry, pack and store various fruits and vegetables for refrigeration purposes.	Demonstration & actual practice by students.	20

5.	Preparation of ice cream.	The pupil prepares ice cream in the class.	Demonstration & actual practice by students.	10
6.	Sun drying of cauliflower, turnip, potato, fenugreek and carrot.	The pupil preserves fruits and vegetables using solar energy by Sun drying method.	Demonstration & actual practice by students.	40
7.	Preparation of mango pickle, Mixed vegetable pickles, ginger and lemon pickle.	The pupil prepares various pickles in the lab.	Demonstration & actual preparation of pickle by students.	40
8.	Cleaning of equipment and machinery.	The pupil cleans the equipment and machinery in the lab.	Actual working by the students.	10
9.	Simple chemical tests: i. Acidity with litmus paper. ii. pH with ph paper. iii. Solid content testing by refractometer.	The pupil performs these tests in the class and knows the chemical Constituents of the foods.	Demonstration and actual working by the students.	20

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

CLASS: IX

COURSE: KNITTING (HAND AND MACHINE)

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Knitting - its meaning, importance and scope.	The pupil knows i. Meaning ii. Importance and iii. Scope of knitting.	Narration and Discussion	06
2.	Brief knowledge of different needles used in knitting (Hand machine). Explanation of latch needle in detail. Functions of its different parts with figure.	The pupil knows about the different types of needles used in knitting. The pupil knows about the latch needle and functions of its different parts.	Explanation and Demonstration	13

3.	Starting sequence of single bed hand knitting machine.	The pupil knows about the starting sequence of the knitting machine.	Explanation and Demonstration	13
4.	Border and plain knitting on single bed hand knitting machine.	The pupil knows the preparation of boarder and plain knitted fabric.	Explanation and Demonstration	15
5.	Basic cam parts of hand knitting machine and diagrammatic representation of cam set of single bed hand knitting machine (FLAT) simac.	The pupil i. knows about the basic cam parts of knitting machine ii. knows about knitting operation with the help of cam set diagram.	Explanation and Demonstration	15
6.	Starting sequence of round knitting machine, Jobbing on operation and running on operation.	The pupil i. knows about the starting of the knitting machine. ii. Knows about the jobbing on operation. iii. Knows about the running on operation.	Explanation and Demonstration	14
7.	Diagrammatic representation of the cam set of round knitting machine and knitting of a muffler on round knitting machine and also with knitting needles.	The pupil knows about the knitting operation with the help of cam set's diagram and also knows preparation of a muffler (Hand and machine).	Explanation and Demonstration	24

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Identification and functions of different types of knitting machines.	The pupil identifies the different types of knitting machines..	Display and Demonstration	08
2.	Identification of different types of needles.	The pupil identifies the different types of knitting needles.	Demonstration	12
3.	Starting method of singles bed hand knitting machine.	The pupil is able to start the machine.	Demonstration and practice by students on single bed-hand knitting machine.	36
4.	Making of boarder and plain fabric on single bed hand knitting machine.	The pupil makes border and plain fabric.	Demonstration and practice by students.	36

5.	Identification and functioning of cams and cam set of the single bed hand knitting machine.	The pupil identifies the different cams and cam set of the single bed hand knitting machine.	Demonstration and practice by students.	36
6.	Starting sequence of round knitting machine.	The pupil starts and operates the round knitting machine.	Demonstration and practice on the round hand knitting by machine.	36
7.	Setting of the machine and knitting of a muffler (by hand and machine).	The pupil makes a muffler with knitting needles and machines.	Demonstration and practice by students.	36

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs
Time: 3 hrs

Theory: 25 Marks
Practical: 45 Marks
CCE: 30 Marks
Total: 100 Marks

COURSE: GENERAL HORTICULTURE

THEORY
CLASS: IX

1	2	3	4	5
Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1.	Scope and importance of vegetables in human diet their nutritional values, i.e. vitamins, minerals etc.	The pupil knows the Importance of vegetables in human diet.	Lecture and dissuasion.	05
2.	Selection of site for vegetable farm.	The pupil knows the requisites for selection of site for vegetables farm.	Lecture, visit to vegetable farm.	06
3.	Suitability of soil for different vegetable crops.	The pupil <ul style="list-style-type: none"> i. knows the methods of classification of soil. ii. knows the characteristics of various types of soil. iii. Understands the suitability of soil for different vegetable crops. 	Lecture, Demonstration	06
4.	Kitchen garden (Layout and its maintenance)	The pupil knows the requirements of good layout and maintenance of a kitchen garden.	Lecture, visit to some kitchen garden.	06
5.	Seeds: Characteristics, quality, procurement, preparation, preservation and treatment of seeds	The pupil <ul style="list-style-type: none"> i. Differentiates between good and damaged seed. 	Lecture, Demonstration	16

	before sowing with special reference to potato, cauliflower, tomato, brinjal, chillies, okra, muskmelon, radish, carrot, turnip, onion and peas.	<ul style="list-style-type: none"> ii. Knows sources for procurement of good quality seeds. iii. Understands methods of preparation preservation and treatment of seed with fungicide. 		
6.	Cultivation of important vegetables crops, i.e. potato, tomato, brinjal, chillies, cauliflower, cabbage, radish, carrot, peas, okra and cucurbits.	The pupil knows about soil and its preparation, method of sowing, seed rate varieties, manure and fertilizer, methods of irrigation weeding and harvesting.	Lecture and Discussion	25
7.	Study of nursery raising and transplanting crops like tomato, brinjal, cauliflower, cabbage, onion and muskmelon.	<p>The pupil</p> <ul style="list-style-type: none"> i. has knowledge to select site for nursery. ii. knows the methods of preparing nursery bed. iii. knows the proper tools for preparation of bed. iv. has knowledge of selection of plants for transplanting in beds. 	Lecture and Demonstration	16
8.	Methods of preservation of vegetables i.e. cauliflower, turnip, methi, peas, tomato, onion, carrot and cabbage.	The pupil understands various methods of preservation of different vegetables.	Lecture and Demonstration.	20

PRACTICAL

1	2	3	4	5
Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1.	Identification of different vegetable seeds and plants.	<p>Pupil identifies</p> <ul style="list-style-type: none"> i. different vegetable seeds ii. vegetable plants 	Demonstration and Learning by doing	09
2.	Identification of different common weeds in crops; manures and fertilizers.	<p>The pupil</p> <ul style="list-style-type: none"> i. identifies common weeds, manures and fertilizer. ii. knows the methods of controlling the weeds. 	Demonstration and Learning by doing	09
3.	Layout of a kitchen garden and its maintenance.	<p>The pupil</p> <ul style="list-style-type: none"> i. selects suitable sites for a kitchen garden. ii. maintains the kitchen garden. 	Demonstration and Learning by doing	09

4.	Preparation of nursery beds for different vegetables crops.	The pupil i. selects site for nursery bed. ii. prepares nursery bed iii. uses proper tools for preparation of nursery bed.	Demonstration and Learning by doing	40
5.	Growing of vegetable crops in kitchen garden and its maintenance.	The pupil acquires skills i. for growing vegetable crops in a kitchen garden. ii. For maintenance of the kitchen garden.	Demonstration and Learning by doing	70
6.	Home scale preparation and preservation and vegetable products. i.e. tomato sauce and vegetable pickle.	Pupil prepares: i. Sauce ii. Pickle from one seasonal vegetable.	Demonstration and Learning by doing	18
7.	Home scale dehydration of vegetables like potato, methi and dhania.	The pupil i. Prepares potato chips. ii. Preserves methi, dhania etc. through sun-drying method.	Demonstration and Learning by doing	18
8.	Visits to nurseries/agricultural farms/agricultural fairs.			27

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

COURSE: WOOD CRAFT

THEORY

CLASS: IX

Sr. No. 1	CONTENT/ACTIVITIES 2	LEARNING OUTCOMES 3	TEACHING/LEARNING METHODOLOGY 4	TIME REQUIRED (Periods) 5
1.	Introduction to the trade, difference between trade and craft; qualities of a good craftsman.	The pupil understands the nature of the trade. differentiates between trade & craft. Knows about the qualities of a good craftsman.	Lecture and dissuasion method.	05
2.	Workshop safety precautions and workshop discipline.	The pupil describes various safety precautions to be taken while at work e.g. about the clothes to be worn, temperament etc. acquires knowledge about the requirements of proper workshop discipline.	Lecture and dissuasion method	05

3.	Introduction to the hand tools used in woodcraft such as saw, planer, hammer, chisel, screw driver etc.	The pupil i. has the knowledge to identify the tools. ii. draws their sketches. iii. Describes their particular uses.	Demonstration	30
4.	Sharpening and maintenance of the tools.	The pupil describes methods for proper maintenance of tools.	Explanation and demonstration	20
5.	Brief knowledge of the types of wood used in wood craft such as Doodar, Kail, Partal, Sheesham, Babool, Mango etc.	The pupil i. understands how to identify carious types of wood. ii. describes their properties. iii. describe their economical and proper use.	Explanation display; visits to saw mill, forest, timber market	15
6.	Sketching and drawing of articles such as patra name plate, hanger ad round ruler in given size.	The pupil draws the sketches of various simple articles of given dimensions.	Explanation and Demonstration.	15
7.	Drawing of different types of joints such as Butt joint, Screw joint and cross half flap joint	The pupil i. draws the sketches of various joints ii. explains the proper use of the joints	Explanation and Demonstration.	10
8.	Estimation of the cost of the articles made by the students	Calculate the cost of the articles i. for personal use ii. for sale	Lecture and discussion	05

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	(i) Sawing (ii) Chiseling (iii) Planning.	The pupil develops workable skills of (i) Sawing (ii) Chiseling (iii) Planning.	Demonstration and Learning by doing	50
2.	Preparation of articles e.g. Patra, name plate, round ruler, hanger and their drawing	The pupil prepares simple articles as per required dimensions.	-do- Visit to a local workshop, emporium etc.	50
3.	Finishing of a given job using a file and a sand paper.	The pupil acquires the skill of finishing a job properly.	Demonstration and Learning by doing	50

4.	(i) Preparation of spirit polish (ii) Polishing & finishing.	The pupil prepares polish and develops the skill of polishing.	Demonstration and Learning by doing	50
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PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

COURSE: WELDING

THEORY

CLASS: IX

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Importance and scope of welding.	The pupil acquires general information about the use of welding for production & repair works.	Lecture method description	09
2.	Different methods of joining various metals and their applications.	The pupil acquires knowledge of safety measures in welding shop and take measures when needed.	Lecture method description	12
3.	Introduction and application of hand tools.	The pupil acquires knowledge of hand tools and their correct use and maintenance.	Demonstration and handling of tools by students.	40
4.	Different types of welding: Arc, Gas and resistance.	The pupil knows, recognizes and differentiates between different types of welding and their use.	Demonstration and handling of tools by students.	09
5.	Principle of Arc welding including introduction of electricity.	The pupil understands the different electrical terms and principles of Arc welding.	Demonstration and Description	09
6.	Different gases used for gas welding	The pupil knows about the use of acetylene, hydrogen and oxygen gases in welding process.	Demonstration and Description	09
7.	Introduction to soldering and Brazing	The pupil acquires knowledge and skill to join metals with soldering and brazing.	Demonstration and Description	12

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Safety precaution to be observed in welding shop	The pupil knows and observes safety precautions in a welding shop.	Demonstration and Description	09
2.	Identification and maintenance of hand tools.	The pupil acquires skill of cutting the materials through different methods.	Demonstration and Description	09
3.	Cutting practice of M.S-Flat and round with a. Hand hacksaw b. Chisel and hammer	The pupil acquires skill of cutting the materials by different methods.	Demonstration and practice by students.	12

4.	Bending	The pupil acquires skill of bending flats and rods.	Demonstration and practice by students.	18
5.	Filing	The pupil acquires skill of filing.	Demonstration and practice by students.	18
6.	Drilling by Bench and Portable drilling machine.	The pupil acquires Knowledge and skill of drilling.	Demonstration and practice by students.	18
7.	Preparation of edge with files.	The pupil acquires skill of making edge for welding.	Demonstration and practice by students.	18
8.	Preparation of lap joint with the help of a) Rivets b) Bolts and nuts	The pupil acquires skill of making metal lap joints.	Demonstration and practice by students.	12
9.	Identification and reading of voltmeter, ammeter and wattmeter.	The pupil acquires ability to identify and takes observations of voltmeter, ammeter and wattmeter readings.	Demonstration and practice by students.	09
10.	Preparation of lap joint with the help of soldering iron.	The pupil acquires skill of making lap joint with soldering.	Demonstration and practice by students.	12
11.	Preparation of Butt Joint with the help of Brazing using blow lamp. .	The pupil acquires skill of Brazing.	Demonstration and practice by students.	09
12.	Identification of main parts of the welding set.	The pupil names the main parts of gas welding set.	Demonstration and practice by students.	09
13.	Identification of main parts of Arc welding set.	The pupil names the main parts of Arc welding set.	Demonstration and practice by students.	09
14.	Setting up of single phase Arc welding set.	The pupil is able to set a single phase Arc welding set.	Demonstration and practice by students.	14

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

COURSE: WEAVING TECHNOLOGY

**THEORY
CLASS: IX**

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Introduction to weaving:- <ul style="list-style-type: none"> • Definition, Significance, scope & objectives. • Definition of warp, weft and pick. 	The pupil defines weaving and knows about its significance, scope and objectives. The pupil understands warps, weft, end & pick & describes the terms.	Description with charts.	10

2.	Textile Fibres: <ul style="list-style-type: none"> • Definition, classification & brief description. • Detailed description of cotton fibres. 	The pupil acquires basic know- how about the origin & characteristics of different types of fibres particularly the cotton fibre.	Lecture and Demonstration Display of different types of fibres.	18
3.	Preparatory Processes: <ul style="list-style-type: none"> • Definition of bales, hauks, boboin, pirn, cone, wire-heads, reed, warping, winding sizing, beaming & looming. • Warp winding and weft winding • Processes of beaming drafting denting. 	The pupil understands the concept regarding the terminology used for preparatory process. The pupil understands different preparatory processes warp winding, weft winding, beaming, drafting denting.	Demonstration and Description	18
4.	Handloom: <ul style="list-style-type: none"> • Types of handloom with their functioning. • method of filling of handloom for plain weave. • Precautions to be taken before starting weaving on handloom. 	The pupil understands the process of handloom/functioning can describe the steps the steps indifferent types of handloom weaving.	Demonstration; Explanation and description.	18
5.	Textile Calculation: <ul style="list-style-type: none"> • Weight conversion cable • Length conversion table • Hank-lenga tables • Conversion Calculations • Count method of finding count of yarn. 	The pupil attains numerical ability regarding textile calculations.	Problem solving through repetitive exercises.	18
6.	Graphical Designing: <ul style="list-style-type: none"> • Use of graph paper for designing • Construction of plain weave and methods of its ornamentation along with draft and peg plan. 	The pupil understands graphical designing and acquires skill in making of designs for plain weave and methods of its ornamentation on the graph paper.	Demonstration	18

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Knitting exercises: Different types of knots.	The pupil acquires skill of making different types of knots.	Demonstration and Project Assignment	15
2.	Winding: <ul style="list-style-type: none"> • Bobbin Winding • Pirn winding 	The pupil attain skill in winding.	Demonstration and Project Assignment and mill visit	40
3.	Drafting and denting of plain weave.	The pupil drafts and dents plain weave.	Demonstration and project assignment	30
4.	Knowledge of handloom and its parts.	The pupil draws a free hand sketch of a handloom.	Display and Demonstration	30
5.	Fitting of handloom for plain weave.	The pupil acquires skill in fitting i.e. mantling and dismantling	Demonstration and actual practice by students	25
6.	Weaving of plain weave cloth on handloom.	The pupil weaves plain cloth of a certain length on handloom.	Demonstration and actual practice by students	60

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

COURSE: REPAIR AND MAINTENANCE OF HOUSEHOLD ELECTRICAL APPLIANCES

CLASS: IX

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Introduction to electricity common source of A.C & D.C. Difference between A.C & D.C. Applications of electricity.	The pupil knows the fundamentals of electricity.	Charts and Models	10
2.	Electrical quantities like Voltage, Current, Resistance, Power, Energy and their Units, their measurements.	The pupil familiarized with the fundament quantities like Voltage, Current, Resistance, Power, Energy and Units.	Charts and Models	10

3.	Ohm's Law, Simple series and parallel circuits. Potential difference and idea of voltage drops.	The pupil understands the application of Ohm's Law in series and parallel circuits.	Circuit diagram	12
4.	To identify phase neutral and earth wire. Common electrical signs and symbols.	The pupil is familiarized with phase, neutral, earth wire and symbols.	Diagrams and charts.	10
5.	Introduction to conductors and insulators.	The pupil understands the concept of conductors and insulators.	Diagrams and Charts	08
6.	Identification of common tools and their uses.	The pupil identifies the common tools and knows their use.	Charts	12
7.	Identification and use of Electrical accessories.	The pupil identifies various electrical accessories and knows their use.	Charts	10
8.	Fuse, its necessity, Type of fuses and their ratings. Identification of open circuit, short circuit and closed circuit.	The pupil grasps the idea of fuse and differentiates between the types.	Charts	12
9.	Simple Circuits	The pupil knows about different circuits.	Circuit Diagrams	08
10.	Types of wires and simple wire joints.	The pupil identifies different wires and wire joints.	Circuit Diagrams	08

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Identification of common sources of A.C and D.C.	The pupil identifies A.C & D.C. source.	Demonstration	12
2.	Identification of phase, neutral & earth wire on main switch board with neon tester and test lamp.	The pupil differentiates between neutral and earth wire phase.	Demonstration	8
3.	Identification of common signs and symbols used in electricity.	The pupil is familiarized with different signs and symbols in electricity.	Explanation with the help of charts.	14
4.	Use of common hand tools.	The pupil acquires skill to use common hand tools.	Demonstration	14
5.	Identification of different conductors and insulators.	The pupil is familiarized with different types of conductors and insulators.	Demonstration	12
6.	Identification of different electrical accessories.	The pupil is familiarized with different types of electrical accessories.	Display and Demonstration.	10

7.	Identification of different types of circuits.	The pupil is familiarized with different wires.	Display and Demonstration.	10
8.	Dismantling and Re-assembling of socket switch, Kit-Kat, Lamp holder, Connectors etc.	The pupil is able to dismantle and reassemble different electrical accessories.	Display and Demonstration.	13
9.	Making different wire joints(Twist Joint, Straight joint, T-Joint).	The pupil is able to make different joints.	Display and Demonstration.	14
10.	Use of Electric Soldering iron.	The pupil uses electric soldering iron.	Demonstration and Explanation.	8
11.	Identification of different types of electrical circuits (Open circuit, Short circuit and close circuit).	The pupil differentiates between open short and close circuit.	Demonstration and Explanation.	8
12.	Study of torch and wiring with torch cell.	The pupil assembles torch circuit and repairs & wires it.	Demonstration and Explanation.	10
13.	Making one point circuit (controlling a lamp or socket through a switch).	The pupil sets a circuit on wooden boards.	Demonstration and Explanation.	12
14.	To connect two lamps in series.	The pupil sets a circuit on wooden board.	Demonstration and Explanation.	13
15.	To connect two lamps in parallel separately from respective switch.	The pupil sets a circuit on wooden board.	Demonstration and Explanation.	14
16.	To prepare extension board.	The pupil prepares an extension board.	Demonstration and Explanation.	10
17.	To name decorative series lamp circuit.	The pupil prepares decorative light circuit.	Demonstration and Explanation.	18

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

COURSE: REPAIR AND MAINTENANCE OF SCOOTER AND MOTOR CYCLE

CLASS: IX

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Identification of main parts/System of Scooter/motor cycle. Definitions- Automobile, engine stroke, T.D.C, B.D.C. swept volume, I.H.P, B.H.P, F.R.P, mechanical efficiency.	The pupil identifies the main parts of scooter/motorcycle and knows about various technical terms and defines them.	Lecture method	14

2.	Main parts of an engine. Constructional details of crank case, crank shaft, connecting rod, piston-pin, piston, piston rings, cylinder block, cylinder liner, cylinder head, fly wheel.	The pupil identifies, describes and demonstrates, various engine parts with the help of section model. He also knows the constructional details of different components of a two wheeler engine.	Demonstration and Description	12
3.	Construction and working of two stroke cycle petrol engine and four stroke cycle petrol engine. Difference between 2 stroke cycle petrol engine and 4 stroke cycle petrol engine. Difference between petrol and diesel engine.	The pupil understands the engine and the principles involved in two stroke and four stroke cycle petrol engine. He knows the difference between the two and difference between petrol and diesel engine.	Demonstration and Description	10
4.	Necessity of engine lubrication Methods of lubrication of scooter and motorcycle engines (Petrol and Splash System). Necessity of engine cooling. Method of engine cooling.	The pupil understands the need of lubrication and cooling of the engine and also describes various methods of lubrication and engine cooling.	Demonstration and Description	12
5.	Line diagram of fuel supply system. Constructional details of fuel filter and air cleaner. Principle of Carburetor.	The pupil draws the line diagram of fuel supply system and understands the system of fuel supply and principle of carburetor.	Demonstration and Description	12
6.	Line diagram of battery and magnetic ignition system, their working. Constructional details of battery, magnets, Ig coil, C.B points, condenser and spark plug.	The pupil understands the Concept of ignitions its need and use. He also draws a line diagram of battery and magnetic ignition system.	Demonstration and Description	10
7.	Necessity of transmission system its line diagram; Construction and working of multi-plate friction clutch, Clutch lining. Construction and working of sliding mesh type gear box and constant mesh type gear box.	The pupil understands the process of power transmission from engine to wheels and can describe the system.	Demonstration and Description	10
8.	Objectives of suspension system. Construction and working of coil spring and hydraulic shock absorber.	The pupil understands and describes the suspension system.	Demonstration and Description	10
9.	Necessity of brake system. Line diagram of brake system (mechanical). Brake drum, Brake shoe and Brake lining.	The pupil understands the need and working of brake system.	Demonstration and Description	10

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Safety measures to be taken in an auto repair shop.	The pupil observes safety measures demonstrated by the teacher.	Demonstration and Practice by the students.	06
2.	Identification of general tools in a workshop.	The pupil names and recognizes general tools of workshop and draw sketches labeling their parts.	Demonstration and Practice by the students.	06
3.	Identification of measuring instruments.	The pupil identifies and uses different measuring instruments.	Demonstration and Practice by the students.	06
4.	Identification of special tools used in scooter/motor-cycle repair shop.	The pupil enlists and recognizes special repair tools used in scooter/motorcycle repair shop.	Demonstration and Practice by the students.	06
5.	Identification of main parts of the scooter.	The pupil draws a rough sketch of a scooter and identifies & labels its different parts.	Demonstration and Practice by the students.	12
6.	Identification of main parts of motorcycle.	The pupil draws a rough sketch of a motorcycle and identifies label its different parts.	Demonstration and Practice by the students.	12
7.	To study the construction and working of a 2 stroke cycle petrol engine using a sectional model.	The pupil draws a rough sketch of a 2 stroke cycle petrol engine and labels its parts and also explains its working.	Demonstration and Practice by the students.	10
8.	To study the construction and working of a 4 stroke cycle petrol engine using a sectional model.	The pupil draws a sketch of 4 stroke cycle petrol engine, label its parts and explains its working.	Demonstration and Practice by the students.	10
9.	Decarbonisation	The pupil decarbonizes an engine and describes the process.	Demonstration and Practice by the students.	08
10.	To change lubricating oil of an engine.	The pupil decarbonizes an engine and describes the process.	Demonstration and actual working by the students.	06
11.	Servicing of a fuel filter.	The pupil services a fuel filter and explains its rationale.	Demonstration and actual working by the students.	08
12.	Servicing of an air cleaner.	The pupil services an air cleaner and explains its need and rationale.	Demonstration and actual working by the students.	08
13.	To clean the fuel tank.	The pupil cleans the fuel tank and explains its need and working.	Demonstration and actual working by the students.	10
14.	Cleaning of a spark plug and setting of its gap.	The pupil cleans the spark plug and sets its gap.	Demonstration and actual working by the students.	10
15.	Battery testing by using a cell taster.	The pupil tests the battery using a cell tester.	Demonstration and actual working by the students.	08
16.	Flushing and refilling of gear oil.	The pupil flushes & refills the gear oil.	Demonstration and actual working by the students.	08
17.	Chain adjustment	The pupil adjusts the chain and explains its process.	Demonstration and actual working by the students.	06

18.	To change and adjustment the clutch wire.	The pupil changes and adjusts the clutch wire.	Demonstration and actual working by the students.	10
19.	To change and adjust the gear wire.	The pupil changes and adjusts the gear wire.	Demonstration and actual working by the students.	10
20.	To change and adjust the brake wire.	The pupil changes and adjusts the brake wire.	Demonstration and actual working by the students.	10
21.	To change and adjust the speedometer wire.	The pupil changes and adjusts the speedometer wire.	Demonstration and actual working by the students.	10

ਪ੍ਰੀ-ਵੋਕੇਸ਼ਨਲ ਕਰੀਕੁਲਮ

ਸਮਾਂ: 2 ਘੰਟੇ

ਸਮਾਂ: 3 ਘੰਟੇ

ਲਿਖਤੀ: 25 ਅੰਕ

ਪ੍ਰਯੋਗੀ: 45 ਅੰਕ

ਸੀ.ਸੀ.ਈ.: 30 ਅੰਕ

ਕੁੱਲ: 100 ਅੰਕ

ਲਿਖਤੀ

ਕਲਾਸ : ਨੌਵੀਂ

ਪਾਠ-ਕ੍ਰਮ : ਮੁੱਢਲੇ ਦਫ਼ਤਰੀ ਕਾਰਜ ਅਤੇ ਸਟੈਨੋਗ੍ਰਾਫੀ

ਲੜੀ ਨੰ:	ਵਿਸ਼ਾ-ਵਿਸ਼ਲੇਸ਼ਣ ਤੇ ਹੋਰ ਵੇਰਵੇ	ਸਿਖਲਾਈ ਉਦੇਸ਼	ਪੜ੍ਹਾਉਣ ਤੇ ਸਿੱਖਣ ਵਿਧੀ	ਸਾਜ਼-ਸਮਾਨ ਦੀ ਲੋੜ	ਨਿਸ਼ਚਿਤ ਲੋੜੀਂਦਾ ਸਮਾਂ	ਵਿਸ਼ੇਸ਼ ਕਥਨ
1	2	3	4	5	6	7
(ੳ)	ਟਾਈਪ ਥਿਊਰੀ 1. ਪੰਜਾਬੀ ਟਾਈਪ ਮਸ਼ੀਨ ਦਾ ਇਤਿਹਾਸ ਮੁੱਖ ਭਾਗ, ਬਾਡੀ, ਕੈਰਿਜ ਤੇ ਕੀ-ਬੋਰਡ, ਸਪੇਸ ਬਾਰ, ਸ਼ਿਫਟ ਲਾਕ, ਰੈਗੂਲੇਟਰ ਸੈਟ ਕੀ, ਰੈਗੂਲੇਟਰ ਕਲੀਅਰ ਕੀ, ਰੈਗੂਲੇਟਰ ਬਾਰ, ਰੋਲਰ, ਸੱਜੇ ਅਤੇ ਖੱਬੇ ਮਾਰਜਿਨ ਸੈੱਟ, ਰਿਬਨ ਇੰਡੀਕੇਟਰ, ਬੈਕ ਸਪੇਸ ਕੀ, ਘੰਟੀ ਅਤੇ ਹੈਡ, ਇਨ੍ਹਾਂ ਦੀ ਸਥਿਤੀ ਤੇ ਕੰਮ। 2. ਟਾਈਪ ਮਸ਼ੀਨ ਤੇ ਕਾਗਜ਼ ਚੜ੍ਹਾਉਣ ਤੇ ਉਤਾਰਨ ਦਾ ਢੰਗ।	ਵਿਦਿਆਰਥੀ ਨੂੰ ਟਾਈਪ ਮਸ਼ੀਨ ਦੇ ਪੂਰਜਿਆਂ ਦੀ ਵਰਤੋਂ ਦੀ ਪੂਰੀ ਜਾਣਕਾਰੀ ਹੋਵੇਗੀ। ਵਿਦਿਆਰਥੀ ਟਾਈਪ ਮਸ਼ੀਨ ਤੇ ਕਾਗਜ਼ ਚੜ੍ਹਾਉਣ ਤੇ ਉਤਾਰਨ ਦੇ ਢੰਗ ਬਾਰੇ ਜਾਣੂ ਹੋਵੇਗਾ।	ਜਾਣ-ਪਛਾਣ ਕਰਾਉਣੀ, ਵੱਖ-ਵੱਖ ਪੂਰਜਿਆਂ ਦੀ ਵਰਤੋਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ। ਕਾਗਜ਼ ਚੜ੍ਹਾਉਣਾ ਤੇ ਉਤਾਰਨਾ।	ਟਾਈਪ ਮਸ਼ੀਨ ਟਾਈਪ ਮਸ਼ੀਨ ਕਾਗਜ਼	10 ਪੀਰੀਅਡ ਜਾਂ ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ 5 ਪੀਰੀਅਡ ਜਾਂ ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ	

	<p>3. ਕੀ-ਬੋਰਡ, ਕੀ-ਬੋਰਡ ਵੰਡ, ਖੱਬੇ ਤੇ ਸੱਜੇ ਹੱਥ ਦੀਆਂ ਉਂਗਲਾਂ ਦੁਆਰਾ ਟਾਈਪ ਕਰਨ ਦਾ ਸਹੀ ਪ੍ਰਯੋਗ।</p> <p>4. ਟਾਈਪ ਕਰਨ ਦੀਆਂ ਵਿਧੀਆਂ ਛੋਹ ਪ੍ਰਣਾਲੀ ਤੇ ਪ੍ਰਤੱਖ ਪ੍ਰਣਾਲੀ।</p> <p>5. ਟਾਈਪ ਅਭਿਆਸ</p>	<p>ਗਾਈਡ ਕੀਜ਼ ਤੋਂ ਉਂਗਲਾਂ ਦੁਆਰਾ ਕੀ-ਬੋਰਡ ਤੇ ਛੋਹ ਰੱਖੇਗਾ। ਅੱਖਰਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖੇਗਾ।</p> <p>ਬਿਨਾਂ ਕੀ-ਬੋਰਡ ਦੇਖਿਆਂ ਕੀ-ਬੋਰਡ ਅਭਿਆਸ ਬਾਰੇ ਜਾਣੂ ਹੋਵੇਗਾ।</p> <p>ਵਿਦਿਆਰਥੀ ਸ਼ੁੱਧ ਟਾਈਪ ਕਰਨ ਦੇ ਅਭਿਆਸ ਸੰਬੰਧੀ ਸਾਵਧਾਨੀਆਂ ਦਾ ਗਿਆਨ ਪ੍ਰਾਪਤ ਕਰ ਲਵੇਗਾ।</p>	<p>ਛੋਹ-ਪ੍ਰਣਾਲੀ ਦੁਆਰਾ ਟਾਈਪ ਕਰਨਾ।</p> <p>ਛੋਹ-ਪ੍ਰਣਾਲੀ ਦੁਆਰਾ ਟਾਈਪ ਕਰਨਾ।</p> <p>ਛੋਹ-ਪ੍ਰਣਾਲੀ ਦੁਆਰਾ ਟਾਈਪ ਕਰਨਾ</p>	<p>ਟਾਈਪ ਮਸ਼ੀਨ ਕਾਗਜ਼</p> <p>ਟਾਈਪ ਮਸ਼ੀਨ ਕਾਗਜ਼</p> <p>ਟਾਈਪ ਮਸ਼ੀਨ ਕਾਗਜ਼ ਟਾਈਪ ਸਮੱਗਰੀ</p>	<p>10 ਪੀਰੀਅਡ ਜਾਂ ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ</p> <p>8 ਪੀਰੀਅਡ ਜਾਂ ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ</p> <p>50 ਪੀਰੀਅਡ ਜਾਂ ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ</p>	
(ਅ)	<p>ਪੰਜਾਬੀ ਸ਼ਾਰਟਹੈਂਡ (ਬਿਊਰੀ)</p> <p>1. ਪੰਜਾਬੀ ਸ਼ਾਰਟਹੈਂਡ ਦਾ ਇਤਿਹਾਸ ਪਰਿਭਾਸ਼ਾ, ਵਿਅੰਜਨ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਵਿਅੰਜਨ ਰੇਖਾਵਾਂ, ਕਿਸਮਾਂ ਅਤੇ ਸਾਈਜ਼ ਜੋੜ ਕੇ ਲਿਖਣਾ।</p> <p>2. ਸਵਰ-ਪਰਿਭਾਸ਼ਾ, ਚਿੰਨ, ਸਥਾਨ ਤੇ ਪ੍ਰਯੋਗ।</p>	<p>ਵਿਦਿਆਰਥੀ ਧੁਨੀ ਆਤਮਿਕ ਪ੍ਰਣਾਲੀ (ਅਵਾਜ਼ ਤੇ ਅਧਾਰਿਤ) ਦੁਆਰਾ ਸ਼ਾਰਟਹੈਂਡ ਜਾਣੂ ਹੋਵੇਗਾ।</p> <p style="text-align: center;">ਉਕਤ</p>	<p>ਧੁਨੀਆਤਮਕ ਪ੍ਰਣਾਲੀ ਤੇ ਆਧਾਰਿਤ ਸ਼ਾਰਟਹੈਂਡ</p> <p style="text-align: center;">ਉਕਤ</p>	<p>ਸ਼ਾਰਟਹੈਂਡ ਕਾਪੀ ਪੈਨਸਿਲ, ਪ੍ਰਵਾਨਿਤ ਪਾਠ-ਪੁਸਤਕ।</p> <p style="text-align: center;">ਉਕਤ</p>	<p>50 ਪੀਰੀਅਡ ਜਾਂ ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ</p> <p style="text-align: center;">ਉਕਤ</p>	<p>ਹਰ ਵਿਦਿਆਰਥੀ ਹਰ ਪਾਠ ਦੇ ਘੱਟੋ ਘੱਟ 5 ਪੰਨਿਆਂ ਦਾ ਅਭਿਆਸ ਰੋਜ਼ਕਰੇਗਾ ਅਤੇ ਅਧਿਆਪਕ ਉਸਨੂੰ ਮਿਤੀ ਵਾਰ ਚੈਕ ਕਰੇਗਾ।</p> <p>ਪ੍ਰੀਖਿਆ ਦੇ ਅੰਤ ਤੱਕ ਹਰ ਵਿਦਿਆਰਥੀ ਘੱਟੋ ਘੱਟ 5 ਸ਼ਾਰਟਹੈਂਡ ਨੋਟ-ਬੁੱਕਾਂ (ਕਾਪੀਆਂ) ਅਭਿਆਸ ਨਾਲ ਮੁਕੰਮਲ ਕਰੇਗਾ ਅਤੇ ਅਧਿਆਪਕ ਉਸਨੂੰ ਬਕਾਇਦਾ ਚੈਕ ਕਰੇਗਾ। (ਇਹ ਅਭਿਆਸ ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ ਵੱਲੋਂ ਪ੍ਰਕਾਸ਼ਤ ਪਾਠ-ਪੁਸਤਕ “ਪੰਜਾਬੀ ਸਟੈਨੋਗਰਾਫੀ” ਵਿੱਚੋਂ ਕੀਤਾ ਜਾਵੇਗਾ।)</p>
(ੲ)	<p>ਦਫ਼ਤਰੀ ਕਾਰਜ-ਵਿਧੀਆਂ</p> <p>1. ਦਫ਼ਤਰ ਦੀ ਮਹੱਤਤਾ, ਉਦੇਸ਼, ਕਾਰਜ ਤੇ ਵਾਤਾਵਰਨ ਬਾਰੇ ਆਮ ਜਾਣਕਾਰੀ।</p>	<p>ਵਿਦਿਆਰਥੀ ਦਫ਼ਤਰੀ ਕਾਰ-ਵਿਹਾਰ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰੇਗਾ।</p>	<p>ਦਫ਼ਤਰ ਦੇ ਵਾਤਾਵਰਨ ਬਾਰੇ ਸਮਝਾਉਣਾ।</p>	<p>ਸਰਕਾਰੀ/ਵਪਾਰਿਕ ਸਕੂਲ ਦਫ਼ਤਰ</p>	<p>ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ</p>	

	<p>2. ਦਫ਼ਤਰੀ ਰਿਕਾਰਡ (ਸਕੂਲ) ਰਿਕਾਰਡ ਦੀਆਂ ਕਿਸਮਾਂ ਭਾਵ ਵਿਦਿਆਰਥੀ, ਅਧਿਆਪਕ ਤੇ ਪ੍ਰੀਖਿਆ ਬਾਰੇ ਰਿਕਾਰਡ।</p>	<p>ਵਿਦਿਆਰਥੀ ਨੂੰ ਸਕੂਲ ਵਿੱਚ ਸਾਂਭੇ ਜਾਣ ਵਾਲੇ ਰਿਕਾਰਡ ਬਾਰੇ ਜਾਣਕਾਰੀ ਹੋਵੇਗੀ।</p>	<p>ਦਾਖਲੇ ਬਾਰੇ, ਸਕੂਲ ਛੱਡਣ ਬਾਰੇ, ਅਨੁਸ਼ਾਸ਼ਨੀ ਕੇਸਾਂ ਬਾਰੇ, ਹਾਜ਼ਰੀਆਂ ਅਤੇ ਪ੍ਰੀਖਿਆ ਨਾਲ ਸੰਬੰਧਿਤ ਰਿਕਾਰਡ।</p>	<p>ਲੋੜੀਂਦੇ ਸਕੂਲ ਫਾਰਮ, ਰਜਿਸਟਰ, ਕਾਰਡ।</p>	<p>ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ</p>	
	<p>3. ਦਫ਼ਤਰੀ ਕਾਗਜ਼-ਪੱਤਰਾਂ ਨੂੰ ਸੁਰੱਖਿਅਤ ਰੱਖਣ ਲਈ ਪੰਚਿੰਗ, ਸਟੈਪਲਿੰਗ ਤੇ ਟੈਗ ਕਰਨਾ</p>	<p>ਵਿਦਿਆਰਥੀ ਨੂੰ ਦਫ਼ਤਰੀ ਕਾਗਜ਼-ਪੱਤਰਾਂ ਦੀ ਸਾਂਭ-ਸੰਭਾਲ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਹੋਵੇਗੀ।</p>	<p>ਰਿਕਾਰਡ ਦਾ ਅਮਲੀ ਤੌਰ ਤੇ ਪ੍ਰਯੋਗ ਕਰਨਾ।</p>	<p>ਕਾਗਜ਼-ਪੱਤਰ; ਪੰਚਿੰਗ, ਸਟੈਪਲਿੰਗ, ਮਸ਼ੀਨਾਂ; ਟੈਗ, ਲੇਸ, ਸੂਆ, ਫਾਈਲ ਕਵਰ।</p>	<p>ਉਕਤ</p>	
	<p>4. ਫਾਈਲਿੰਗ ਵਿਧੀ ਦੀ ਮਹੱਤਤਾ/ਉਦੇਸ਼, ਚੰਗੀ, ਫਾਈਲਿੰਗ ਦੇ ਗੁਣ, ਸਾਂਭ-ਸੰਭਾਲ।</p>	<p>ਵਿਦਿਆਰਥੀ ਨੂੰ ਦਫ਼ਤਰੀ ਫਾਈਲਾਂ ਤਿਆਰ ਕਰਨ ਦਾ ਗਿਆਨ ਹੋ ਜਾਵੇਗਾ।</p>	<p>ਦਫ਼ਤਰੀ ਫਾਈਲਾਂ/ਰਿਕਾਰਡ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ।</p>	<p>ਦਫ਼ਤਰੀ ਫਾਈਲਾਂ ਤੇ ਰਿਕਾਰਡ</p>	<p>ਉਕਤ</p>	
	<p>5. ਬੈਂਕਿੰਗ ਸੇਵਾਵਾਂ/ਰੁਪਿਆ ਕਢਾਉਣ, ਜਮ੍ਹਾਂ ਕਰਵਾਉਣ, ਖਾਤਾ ਖੋਲ੍ਹਣ, ਦੀ ਵਿਧੀ।</p>	<p>ਬੈਂਕ ਸੇਵਾਵਾਂ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਰੱਖੇਗਾ।</p>	<p>ਬੈਂਕਾਂ ਨਾਲ ਸੰਬੰਧਿਤ ਕਾਰ-ਵਿਹਾਰ ਬਾਰੇ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਜਾਣੂ ਕਰਵਾਉਣਾ।</p>	<p>ਅਦਾਇਗੀ ਪਰਚੀ, ਪਾਸ ਬੁੱਕ, ਚੈੱਕ ਬੁੱਕ, ਪੈਸੇ ਕਢਵਾਉਣ ਦਾ ਫਾਰਮ (ਵਿਦਫ਼ਾਲ ਫਾਰਮ)।</p>	<p>ਉਕਤ</p>	
	<p>6. ਡਾਕਵਿਧੀ-ਅੰਦਰੂਨੀ ਅਤੇ ਬਾਹਰੀ ਡਾਕ-ਪੋਸਟ ਕਾਰਡ, ਅੰਤਰਦੇਸ਼ੀ ਪੱਤਰ; ਪੱਤਰ, ਵਿਦੇਸ਼ੀ ਪੱਤਰ, ਡਾਕ ਟਿਕਟਾਂ; ਰਜਿਸਟਰੀ ਲਿਫਾਫਾ, ਪਾਰਸਲ, ਬੁੱਕ-ਪੋਸਟ, ਪਹੁੰਚ ਰਸੀਦ।</p>	<p>ਵਿਦਿਆਰਥੀ ਨੂੰ ਡਾਕ-ਸੇਵਾਵਾਂ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਹੋਵੇਗੀ।</p>	<p>ਡਾਕ-ਵਿਭਾਗ ਨਾਲ ਸੰਬੰਧਿਤ ਕਾਰ-ਵਿਹਾਰ ਬਾਰੇ ਵਿਦਿਆਰਥੀ ਨੂੰ ਜਾਣੂ ਕਰਵਾਉਣਾ।</p>	<p>ਪੋਸਟ ਕਾਰਡ, ਅੰਤਰਦੇਸ਼ੀ ਪੱਤਰ, ਵਿਦੇਸ਼ੀ ਪੱਤਰ, ਟਿੱਕਟਾਂ, ਰਜਿਸਟਰੀ ਲਿਫਾਫਾ, ਪਹੁੰਚ ਰਸੀਦ ਵਾਲਾ ਫਾਰਮ।</p>	<p>ਸਕੂਲ ਟਾਈਮ ਟੇਬਲ ਅਨੁਸਾਰ</p>	
	<p>7. ਡਾਕ ਰਜਿਸਟਰ-ਡਾਕ ਪ੍ਰਾਪਤੀ ਰਜਿਸਟਰ, ਡਾਕ ਰਵਾਨਗੀ ਰਜਿਸਟਰ, ਸੇਵਾਦਾਰ ਡਾਕ ਪੁਸਤਕ, ਲਿਫਾਫੇ ਤੇ ਇਨ੍ਹਾਂ ਵਿੱਚ ਪੱਤਰ ਪਾਉਣ ਦੀ ਵਿਧੀ</p>	<p>ਵਿਦਿਆਰਥੀ ਨੂੰ ਹਰ ਤਰ੍ਹਾਂ ਦੀ ਡਾਕ ਸੰਬੰਧੀ ਜਾਂ ਰਜਿਸਟਰਾਂ ਦੀ ਜਾਣਕਾਰੀ ਹੋ ਜਾਵੇਗੀ।</p>	<p>ਰਜਿਸਟਰਾਂ ਅਤੇ ਭਿੰਨ ਭਿੰਨ ਲਿਫਾਫਿਆਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ।</p>	<p>ਡਾਇਰੀ ਰਜਿਸਟਰ, ਉਕਤ ਡਿਸਪੈਚ ਰਜਿਸਟਰ, ਸੇਵਾਦਾਰ ਡਾਕ ਪੁਸਤਕ, ਭਿੰਨ-ਭਿੰਨ ਕਿਸਮ ਦੇ ਸਰਕਾਰੀ ਦਫ਼ਤਰਾਂ ਵਿੱਚ ਵਰਤੇ ਜਾਂਦੇ ਲਿਫਾਫੇ, ਡਾਕ ਟਿਕਟਾਂ, ਗੁੰਦ ਆਦਿ।</p>	<p>ਸੁਝਾਈ ਪੁਸਤਕ “ਪੰਜਾਬੀ ਟਾਈਪ ਰਾਈਟਿੰਗ ਪ੍ਰਕਾਸ਼ਕ ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ</p>	

	8. ਡਾਕ ਸੰਚਾਰ-ਟੈਲੀਗ੍ਰਾਮ (ਤਾਰ), ਫੋਨੋਗ੍ਰਾਮ (ਫੋਟੋ-ਤਾਰ) ਮਨੀਆਰਡਰ ਅਤੇ ਪੋਸਟਲ ਆਰਡਰ।	ਵਿਦਿਆਰਥੀ ਨੂੰ ਡਾਕ, ਤਾਰ, ਮਨੀਆਰਡਰ ਅਤੇ ਪੋਸਟਲ ਆਰਡਰਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਹੋ ਜਾਵੇਗੀ।	ਡਾਕ ਫਾਰਮ, ਟੈਲੀਫੂਨ ਡਾਇਰੈਕਟਰੀ, ਮਨੀਆਰਡਰ, ਪੋਸਟਲ ਆਰਡਰਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ।	ਡਾਕ ਫਾਰਮ, ਟੈਲੀਫੂਨ, ਟੈਲੀਫੂਨ ਡਾਇਰੈਕਟਰੀ, ਮਨੀਆਰਡਰ, ਪੋਸਟਲ ਆਰਡਰ	ਸਕੂਲ ਟਾਇਮ ਟੇਬਲ ਅਨੁਸਾਰ	
(ਸ)	ਕੰਪਿਊਟਰ ਸਿਧਾਂਤ 1. ਮਹੱਤਤਾ, ਗੁਣ, ਹਾਰਡਵੇਅਰ ਤੇ ਸਫਾਟ ਵੇਅਰ, ਬਿਟ-ਬਾਈਟ ਤੇ ਵਰਡ ਲੋਕੇਸ਼ਨ। 2. ਇੱਨ-ਪੁੱਟ ਤੇ ਆਊਟ-ਪੁੱਟ ਦੀ ਵਰਤੋਂ	ਵਿਦਿਆਰਥੀ ਕੰਪਿਊਟਰ ਦੀ ਆਮ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰੇਗਾ। ਵਿਦਿਆਰਥੀ ਕੰਪਿਊਟਰ ਦੀ ਆਮ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰੇਗਾ।	ਕੰਪਿਊਟਰ ਨੂੰ ਚਲਾ ਕੇ ਵਿਖਾਉਣਾ ਕੰਪਿਊਟਰ ਨੂੰ ਚਲਾ ਕੇ ਵਿਖਾਉਣਾ	ਪੀ.ਸੀ.ਏ.ਟੀ. (386) ਪਿੰਟਰ ਸਮੇਤ ਪੀ.ਸੀ.ਏ.ਟੀ. (386) ਪਿੰਟਰ ਸਮੇਤ	ਹਫਤੇ ਵਿੱਚ ਇੱਕ ਪੀਰੀਅਡ ਹਫਤੇ ਵਿੱਚ ਇੱਕ ਪੀਰੀਅਡ	

ਪ੍ਰਯੋਗੀ

(ੳ) ਟਾਈਪ ਭਾਗ

- ਸਕਿਲ 1. ਵਿਦਿਆਰਥੀ 1● ਸ਼ਬਦਾਂ ਦਾ ਇੱਕ ਪੈਰਾ 1●● ਸ਼ਬਦ ਪ੍ਰਤੀ ਮਿੰਟ ਦੀ ਰਫਤਾਰ ਨਾਲ 1● ਮਿੰਟ ਵਿੱਚ ਟਾਈਪ ਕਰੇਗਾ। (ਇਹ ਪੈਰਾ ਪਾਠ-ਪੁਸਤਕ “ਪੰਜਾਬੀ ਟਾਈਪ ਰਾਈਟਿੰਗ” ਪ੍ਰਕਾਸ਼ਕ ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ-ਬੁੱਕ ਬੋਰਡ ਦੇ ਅਭਿਆਸੀ ਪੈਰਿਆਂ ਵਿੱਚੋਂ ਹੋਵੇਗਾ)।
- ਅਭਿਆਸ 2. ਸਿਖਲਾਈ ਦੌਰਾਨ ਵਿਦਿਆਰਥੀ ਵੱਲੋਂ ਟਾਈਪ ਕੀਤੇ ਕਾਰਜਾਂ ਦੀ ਇੱਕ ਫਾਈਲ ਜੋ ਘੱਟੋ-ਘੱਟ 1●● ਪੰਨਿਆਂ ਦੀ ਹੋਵੇਗੀ, ਤਿਆਰ ਕਰੇਗਾ। ਅਧਿਆਪਕ ਵੱਲੋਂ ਇਹ ਫਾਈਲ ਬਕਾਇਦਾ ਚੈਕ ਕੀਤੀ ਗਈ ਹੋਵੇ।

(ਅ) ਸ਼ਾਰਟਹੈਂਡ ਭਾਗ

- ਸਕਿਲ 1. ਵਿਦਿਆਰਥੀ 1●● ਸ਼ਬਦ-ਜੋੜਾਂ ਦੀ ਡਿਕਟੇਸ਼ਨ ਲੈ ਕੇ ਉਸ ਦਾ ਲਿਪੀ-ਅੰਤਰ ਟਾਈਪ ਮਸ਼ੀਨ ਤੇ ਕਰੇਗਾ। ਇਹ ਸ਼ਬਦ ਪਾਠ-ਪੁਸਤਕ “ਪੰਜਾਬੀ ਸਟੈਨੋਗ੍ਰਾਫੀ” ਪ੍ਰਕਾਸ਼ਕ ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ ਵਿੱਚੋਂ ਸਵਰ ਦੇ ਅਧਿਆਇ ਤੱਕ ਹੋਣਗੇ। ਸਮਾਂ 3● ਮਿੰਟ।
- ਅਭਿਆਸ 2. ਵਿਦਿਆਰਥੀ ਪ੍ਰੀਖਿਅਕ ਨੂੰ ਘੱਟੋ-ਘੱਟ ਸ਼ਾਰਟਹੈਂਡ ਅਭਿਆਸ ਕਾਪੀਆਂ ਜੋ ਅਧਿਆਪਕ ਵੱਲੋਂ ਚੈਕ ਕੀਤੀਆਂ ਹੋਈਆਂ ਹੋਣਗੀਆਂ, ਦਿਖਾਵੇਗਾ।

ਸਕਿਲ (ੲ) **ਦਫਤਰੀ ਕਾਰਜ** ਨਾਲ ਸੰਬੰਧਿਤ ਸਾਜ-ਸਮਾਨ ਤੇ ਕਾਰਜ-ਵਿਧੀ ਬਾਰੇ ਵਿਦਿਆਰਥੀ ਕੋਲੋਂ ਪ੍ਰਸ਼ਨ ਜੁਬਾਨੀ ਪੁੱਛੇ ਜਾਣਗੇ (ਵਾਇਵਾ)।

ਸਕਿਲ (ਸ) ਕੰਪਿਊਟਰ

ਵਿਦਿਆਰਥੀ ਤੋਂ ਕੰਪਿਊਟਰ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਸੰਬੰਧੀ ਵਾਇਵਾ/ਪ੍ਰੈਕਟੀਕਲ ਲਿਆ ਜਾਵੇਗਾ।

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

COURSE: COMMERCIAL ART

**THEORY
CLASS: IX**

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Importance and scope of commercial art.	The pupil understands the importance and scope of commercial art.	Lecture Method	06
2.	Qualities of a commercial artist.	The pupil recounts the qualities of a good commercial artist.	Lecture Method	06
3.	Requirement of art studio.	The pupil narrates the pre-requisites for setting up of an art studio.	Lecture Method	06
4.	Materials/common instruments used in commercial art.	The pupil identifies the various types of art material and instruments used in commercial art.	Lecture and Demonstration	15
5.	Colours: Primary, Secondary, cool, warm, harmonious colour, contrast, Tone etc.	The pupil has the concept of colours and identifies various colours and their kind.	Lecture and Demonstration	10
6.	Principles of composition.	The pupil understands the concept of colour composition and its principles.	Lecture and Demonstration	12
7.	Use of perspective in illustration i.e. land scape still life etc.	The pupil understands and expresses the importance of perspective in creation of land scape/still life etc.	Lecture and Demonstration	15
8.	Basic terminologies used in basic design-point, line, curve, form, texture, monochrome.	The pupil enumerates and describes the basic terminologies used in basic design.	Lecture and Demonstration	15
9.	Sketching and its importance in commercial art.	The pupil understands the concept of sketching and also its importance in the field of commercial art.	Lecture and Demonstration	15

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Preparation of secondary colours from primary colours.	The pupil display skill to make secondary colours from primary colours.	Demonstration and Actual Practice by the students.	20

2.	Sketching with pencils and charcoal (foliage and pets, household objects) Creation of a tone and value.	The pupil recognizes various grades of pencils and develops the skill of sketching of foliage and pets by using pencil and charcoal.	Demonstration and Actual Practice by the students.	45
3.	Block lettering with geometrical instruments.	The pupil develops and displays skill of anatomy and shape of letters.	Demonstration and Actual Practice by the students.	50
4.	Freehand calligraphy to develop skill to write alphabets (small and capital) in English, Hindi/Punjabi using bamboo pen and nib pen.	The pupil develops skill to write alphabets (small and capital) in English, Hindi/Punjabi using bamboo pen and nib pen.	Demonstration and Actual Practice by the students.	35
5.	To prepare a simple layout by cutting and pasting from printed material.	The pupil develops skill of cutting, pasting appropriate pictures from printed material.	Demonstration and Actual Practice by the students.	50

PRE-VOCATIONAL CURRICULUM

Time: 2 hrs

Time: 3 hrs

Theory: 25 Marks

Practical: 45 Marks

CCE: 30 Marks

Total: 100 Marks

THEORY

COURSE: REPAIR & MAINTENANCE OF FARM POWER AND MACHINERY

CLASS: IX

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Importance and scope of repair and maintenance of farm machinery as a vocation.	The pupil understands the importance and scope of the trade.	Charts/Diagrams	04
2.	i. Safety precautions to be observed while working in farm machinery workshop. ii. Importance of safety guards. iii. Fire fighting equipment, fire extinguisher, Soda acid type and foam type.	The pupil understands the need and methods of safety measures such as: i. Safety guards. ii. Fire fighting equipment etc.	Charts/Diagrams Charts/Diagrams	04 04 04
3.	Brief description of tools commonly used in the trade. i. Measuring tools- measuring tapes, try square, calipers inside/outside. ii. Striking tools- Mallet, hamlets.	The pupil knows, recognizes, identifies and describe different tools and their uses.	Charts/Diagrams	08 08

iii. Cutting tools- Hacksaw, Chisels.			15
iv. Drilling tools- hand drill, electrical drill and bench drill.			15
v. Sharpening tools- Files, grinders			08
vi. Job holding devices- Vices (Bench, pipe)			15
vii. Miscll tools- spanners combination, pliers, screw drivers, wrench (pipe adjustable), Electric phase tester.			

PRACTICAL

Sr. No.	CONTENT/ACTIVITIES	LEARNING OUTCOMES	TEACHING/LEARNING METHODOLOGY	TIME REQUIRED (Periods)
1	2	3	4	5
1.	Identification of different tools used in the trade.	The pupil identifies and recognizes different tools used in the trade.	Demonstration and Actual Practice by the students.	20
2.	Measuring and cutting of wooden pieces.	The pupil cuts wooden pieces as per given measures and measures different wooden pieces.	Demonstration and Actual Practice by the students.	20
3.	Measuring and cutting of iron pieces (rods, angle iron and conduit pipes) with the help of hacksaw.	The pupil cuts rods, angle iron and conduit pipes with hacksaw as per given measures.	Demonstration and Actual Practice by the students.	20
4.	Bending of iron pieces into different shapes (V, U, S, L, semicircular and circular).	The pupil bends iron pieces/wires/pipes into different V, U, S&L shapes.	Demonstration and Actual Practice by the students.	40
5.	i. Rivetting practices. ii. Bending of conduit pipes.	The pupil is able to rivet pipes.	Demonstration and Actual Practice by the students.	30
6.	Drilling practices, Hand & electric.	The pupil is able to drill with hand and electric power.	Demonstration and Actual Practice by the students.	40
7.	Project jobs involving combination of workshop operations.	The pupil carries with at least one workshop project.	Demonstration and Actual Practice by the students.	30