SMART INDIAN SCHOOL

(UNDER THE AEGIS OF BHAVANS MIDDLE EAST)

(SENIOR SECTION)

IX SKILL SUBJECTS ANNUAL SYLLABUS

2022-23

(As per the CBSE Curriculum)
Released on 21 April 2022

CLASS : IX

CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2022-2023

ARTIFICIAL INTELLIGENCE (SUB. CODE 417)

CLASS – IX & X

OBJECTIVES OF THE COURSE:

The objective of this module/curriculum - which combines both Inspire and Acquire modules is to develop a readiness for understanding and appreciating Artificial Intelligence and its application in our lives. This module/curriculum focuses on:

1. Helping learners understand the world of Artificial Intelligence and its applications through games, activities and multi-sensorial learning to become AI-Ready.
2. Introducing the learners to three domains of AI in an age-appropriate manner.
3. Allowing the learners to construct meaning of AI through interactive participation and engaging hands-on activities.
4. Introducing the learners to AI Project Cycle.
5. Introducing the learners to programming skills - Basic python coding language.

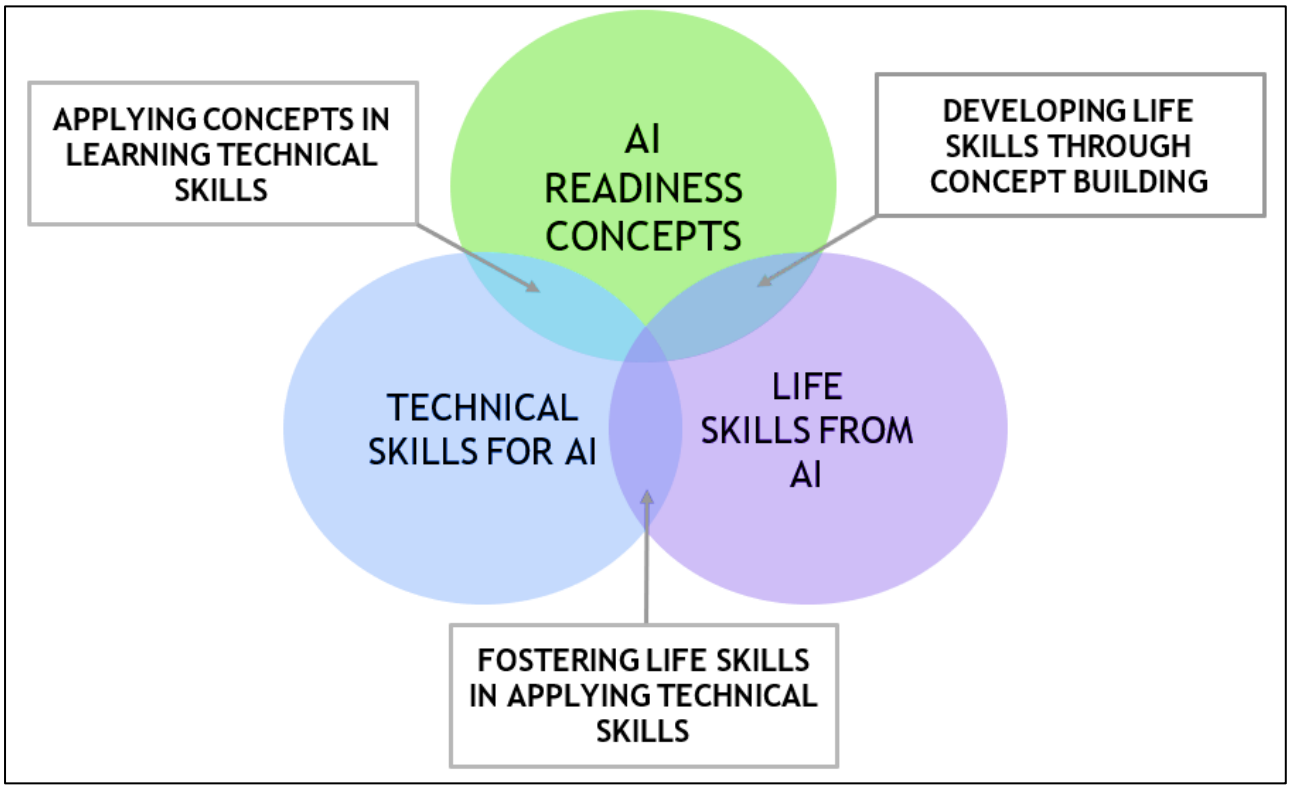
LEARNING OUTCOMES:

Learners will be able to

1. Identify and appreciate Artificial Intelligence and describe its applications in daily life.
2. Relate, apply and reflect on the Human-Machine Interactions to identify and interact with the three domains of AI: Data, Computer Vision and Natural Language Processing and Undergo assessment for analysing their progress towards acquired AI-Readiness skills.
3. Imagine, examine and reflect on the skills required for futuristic job opportunities.
4. Unleash their imagination towards smart homes and build an interactive story around it.
5. Understand the impact of Artificial Intelligence on Sustainable Development Goals to develop responsible citizenship.
6. Research and develop awareness of skills required for jobs of the future.
7. Gain awareness about AI bias and AI access and describe the potential ethical considerations of AI.
8. Develop effective communication and collaborative work skills.
9. Get familiar and motivated towards Artificial Intelligence and Identify the AI Project Cycle framework.
10. Learn problem scoping and ways to set goals for an AI project and understand the iterative nature of problem scoping in the AI project cycle.

11. Brainstorm on the ethical issues involved around the problem selected.
12. Foresee the kind of data required and the kind of analysis to be done, identify data requirements and find reliable sources to obtain relevant data.
13. Use various types of graphs to visualize acquired data.
14. Understand, create and implement the concept of Decision Trees.
15. Understand and visualize computer's ability to identify alphabets and handwritings.
16. Understand and appreciate the concept of Neural Network through gamification and learn basic programming skills through gamified platforms.
17. Acquire introductory Python programming skills in a very user-friendly format.

SKILLS TO BE DEVELOPED:



SCHEME OF STUDIES:

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students of Class IX opting for skill subject along with other education subjects.

The unit-wise distribution of hours and marks for class IX & X is as follows:

ARTIFICIAL INTELLIGENCE (SUBJECT CODE 417)

CLASS – IX (SESSION 2022-2023)

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

	UNITS	NO. OF HOURS for Theory and Practical	MAX. MARKS for Theory and Practical
PART A	**Employability Skills**		
	Unit 1: Communication Skills-I*	10	-
	Unit 2: Self-Management Skills-I	10	3
	Unit 3: ICT Skills-I	10	3
	Unit 4: Entrepreneurial Skills-I	15	4
	Unit 5: Green Skills-I*	05	-
	Total	**50**	**10**
PART B	**Subject Specific Skills**		
	Unit 1: Introduction to Artificial Intelligence (AI)		10
	Unit 2: AI Project Cycle		15
	Unit 3: Neural Network		5
	Unit 4: Introduction to Python		10
	Total		**40**
PART C	**Practical Work**		
	Unit 4: Introduction to Python **Practical File with minimum 15 Programs**		15
	Practical Examination • Simple programs using input and output function • Variables, Arithmetic Operators, Expressions, Data Types • Flow of control and conditions • Lists **** Any 3 Programs based on the above topics***		15
	Viva Voce		5
	Total		**35**
PART D	**Project Work / Field Visit / Student Portfolio** **** relate it to Sustainable Development Goals***		15
	Total		**15**
	GRAND TOTAL	**200**	**100**

Note: *** marked units are to be assessed through Internal Assessment/ Student Activities. They are not to be assessed in Theory Exams**

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: Information and Communication Technology Skills-I	10
4.	Unit 4: Entrepreneurial Skills-I	15
5.	Unit 5: Green Skills-I*	05
	TOTAL	**50**

Note: *** marked units are to be assessed through Internal Assessment/ Student Activities. They are not to be assessed in Theory Exams**

The detailed curriculum/ topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

PART-B – SUBJECT SPECIFIC SKILLS

- Unit 1: Introduction to Artificial Intelligence (AI)
- Unit 2: AI Project Cycle
- Unit 3: Neural Network
- Unit 4: Introduction to Python

UNIT 1: INTRODUCTION TO ARTIFICIAL INTELLIGENCE (AI)

SUB-UNIT	LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
Excite	To identify and appreciate Artificial Intelligence and describe its applications in daily life.	Session: Introduction to AI and setting up the context of the curriculum
		Ice Breaker Activity: Dream Smart Home idea • Learners to design a rough layout of floor plan of their dream smart home.
	To relate, apply and reflect on the Human-Machine Interactions. To identify and interact with the three domains of AI: Data, Computer Vision and Natural Language Processing.	Recommended Activity: The AI Game • Learners to participate in three games based on different AI domains. – Game 1: Rock, Paper and Scissors (based on data) – Game 2: Mystery Animal (based on Natural Language Processing - NLP) – Game 3: Emoji Scavenger Hunt (based on Computer Vision - CV)
	To undergo an assessment for analysing progress towards acquired AI-Readiness skills.	Recommended Activity: • AI Quiz (Paper Pen/Online Quiz)

SUB-UNIT	LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
	To imagine, examine and reflect on the skills required for futuristic job opportunities.	Recommended Activity: To write a letter. Writing a Letter to one's future self • Learners to write a letter to self-keeping the future in context. They will describe what they have learnt so far or what they would like to learn someday
Relate	Learners to relate to application of Artificial Intelligence in their daily lives.	Video Session: To watch a video • Introducing the concept of Smart Cities, Smart Schools and Smart Homes
	To unleash their imagination towards smart homes and build an interactive story around it. To relate, apply and reflect on the Human-Machine Interactions.	Recommended Activity: Write an Interactive Story • Learners to draw a floor plan of a Home/School/City and write an interactive story around it using Story Speaker extension in Google docs.
Purpose	To understand the impact of Artificial Intelligence on Sustainable Development Goals to develop responsible citizenship.	Session: • Introduction to UN Sustainable Development Goals
		Recommended Activity: Go Goals Board Game • Learners to answer questions on Sustainable Development Goals
Possibilities	To research and develop awareness of skills required for jobs of the future. To imagine, examine and reflect on the skills required for the futuristic opportunities. To develop effective communication and collaborative work skills.	Session: Theme-based research and Case Studies • Learners will listen to various case-studies of inspiring start-ups, companies or communities where AI has been involved in real-life. • Learners will be allotted a theme around which they need to search for present AI trends and have to visualise the future of AI in and around their respective theme.
		Recommended Activity: Job Ad Creating activity • Learners to create a job advertisement for a firm describing the nature of job available and the skill set required for it 10 years down the line. They need to figure out how AI is going to transform the nature of jobs and create the Ad accordingly.
AI Ethics	To understand and reflect on the ethical issues around AI.	Video Session: Discussing about AI Ethics Recommended Activity: Ethics Awareness • Students play the role of major stakeholders, and they have to decide what is ethical and what is not for a given scenario.
	To gain awareness around AI bias and AI access.	Session: AI Bias and AI Access • Discussing about the possible bias in data collection • Discussing about the implications of AI technology

SUB-UNIT	LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
	To let the students analyse the advantages and disadvantages of Artificial Intelligence.	Recommended Activity: Balloon Debate • Students divide in teams of 3 and 2 teams are given same theme. One team goes in affirmation to AI for their section while the other one goes against it. • They have to come up with their points as to why AI is beneficial/ harmful for the society.

UNIT 2: AI PROJECT CYCLE:

SUB-UNIT	LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
Problem Scoping	Identify the AI Project Cycle framework.	Session: Introduction to AI Project Cycle • Problem Scoping • Data Acquisition • Data Exploration • Modelling • Evaluation
	Learn problem scoping and ways to set goals for an AI project.	Activity: Brainstorm around the theme provided and set a goal for the AI project. • Discuss various topics within the given theme and select one. • List down/ Draw a mind map of problems related to the selected topic and choose one problem to be the goal for the project.
	Identify stakeholders involved in the problem scoped. Brainstorm on the ethical issues involved around the problem selected.	Activity: To set actions around the goal. • List down the stakeholders involved in the problem. • Search on the current actions taken to solve this problem. • Think around the ethics involved in the goal of your project.
	Understand the iterative nature of problem scoping for in the AI project cycle. Foresee the kind of data required and the kind of analysis to be done.	Activity: Data and Analysis • What are the data features needed? • Where can you get the data? • How frequent do you have to collect the data? • What happens if you don't have enough data? • What kind of analysis needs to be done? • How will it be validated? • How does the analysis inform the action?
	Share what the students have discussed so far.	Presentation: Presenting the goal, actions and data.

SUB-UNIT	LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
Data Acquisition	Identify data requirements and find reliable sources to obtain relevant data.	Activity: Introduction to data and its types. • Students work around the scenarios given to them and think of ways to acquire data.
Data Exploration	To understand the purpose of Data Visualisation	Session: Data Visualisation • Need of visualising data • Ways to visualise data using various types of graphical tools.
	Use various types of graphs to visualise acquired data.	Recommended Activity: Let's use Graphical Tools • To decide what kind of data is required for a given scenario and acquire the same. • To select an appropriate graphical format to represent the data acquired. • Presenting the graph sketched.
Modelling	Understand, create and implement the concept of Decision Trees.	Session: Decision Tree • To introduce basic structure of Decision Trees to students.
		Recommended Activity: Decision Tree • To design a Decision Tree based on the data given.
	Understand and visualise computer's ability to identify alphabets and handwritings.	Recommended Activity: Pixel It • To create an "AI Model" to classify handwritten letters. • Students develop a model to classify handwritten letters by diving the alphabets into pixels. • Pixels are then joined together to analyse a pattern amongst same alphabets and to differentiate the different ones.

UNIT 3: NEURAL NETWORK:

LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
Understand and appreciate the concept of Neural Network through gamification.	Session: Introduction to neural network • Relation between the neural network and nervous system in human body • Describing the function of neural network.
	Recommended Activity: Creating a Human Neural Network • Students split in four teams each representing input layer (X students), hidden layer 1 (Y students), hidden layer 2 (Z students) and output layer (1 student) respectively. • Input layer gets data which is passed on to hidden layers after some processing. The output layer finally gets all information and gives meaningful information as output.

UNIT 4: INTRODUCTION TO PYTHON:

LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
Learn basic programming skills through gamified platforms.	Recommended Activity: • Introduction to programming using Online Gaming portals like Code Combat.
Acquire introductory Python programming skills in a very user-friendly format.	Session: • Introduction to Python language • Introducing python programming and its applications
	Theory + Practical: Python Basics • Students go through lessons on Python Basics (Variables, Arithmetic Operators, Expressions, Data Types - integer, float, strings, using print() and input() functions) • Students will try some simple problem-solving exercises on Python Compiler.
	Practical: Flow of control and conditions • Students go through lessons on conditional and iterative statements (if, for and while) • Students will try some basic problem-solving exercises using conditional and iterative statements on Python Compiler.
	Practical: Python Lists • Students go through lessons on Python Lists (Simple operations using list) • Students will try some basic problem-solving exercises using lists on Python Compiler.

CBSE | DEPARTMENT OF SKILL EDUCATION
CURRICULUM FOR SESSION 2022-2023

INFORMATION TECHNOLOGY (SUB. CODE – 402)

JOB ROLE: DOMESTIC DATA ENTRY OPERATOR

CLASS – IX

COURSE OVERVIEW:

A Data Entry Operator/Analyst is a person who is responsible for entering data into different applications and computer databases manage and maintain effective record keeping. In addition, they are responsible for organizing files, collecting and managing data to be entered into the computer. They are also responsible for security of data and safeguard the computer network.

With every office and organization seeking to become computerized, the demand for data entry operators/analysts is on a rise. Data entry operators/analysts usually work in an indoor, office setting using a computer and other electronic machines. To be in the profession of data entry/analysis, one has to have computer literacy, high typing speed, organization skills, concentration skills, communication skills and an ability to sit for long periods of time entering and computing data.

OBJECTIVES OF THE COURSE:

In this course, the students will be introduced to the fundamental concepts of digital documentation, digital spreadsheet, digital presentation, database management and internet security.

The following are the main objectives of this course:

- To familiarize the students with the world of IT and IT enabled services.
- To provide an in-depth training in use of data entry, internet and internet tools.
- To develop practical knowledge of digital documentation, spreadsheets and presentation.
- To enable the students to understand database management system and have updated knowledge about digital record keeping.

- To make the students capable of getting employment in Private Sector, Public Sector, Ministries, Courts, House of Parliament and State Legislative Assemblies.
- To develop the following skills:
    - Data Entry and Keyboarding skills
    - The concept of Digital Documentation
    - The concept of Digital Presentation
    - The concept of Electronic Spreadsheet
    - The concept of Databases
    - Internet Technologies

SALIENT FEATURES

To be a data entry operator/analyst, one requires a lot of hard work and practical hands-on experience. One should have an intensive knowledge of Office applications, computer operations, and knowledge of clerical, administrative techniques and data analysis. Along with this, as a data entry operator/analyst, you will be expected to have fast typing speed, accuracy, and efficiency to perform tasks.

As a data entry operator/analyst, one should improve their computer skills, numerical and literacy skills. These skills can help one expand into a new career path in the future.

SCHEME OF UNITS

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students of Class IX opting for skill subject along with other education subjects. The unit-wise distribution of hours and marks for class IX is as follows:

INFORMATION TECHNOLOGY (SUBJECT CODE - 402)

CLASS – IX (Session 2022-2023)

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

	UNITS	NO. OF HOURS for Theory and Practical		MAX. MARKS for Theory and Practical
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**	**Practical**	**Marks**
	Unit 1: Introduction to IT- ITeS industry	2	4	4
	Unit 2: Data Entry & Keyboarding Skills	4	10	6
	Unit 3: Digital Documentation	10	26	10
	Unit 4:Electronic Spreadsheet	18	35	10
	Unit 5: Digital Presentation	10	31	10
	Total	**44**	**106**	**40**
Part C	**Practical Work**			
	Practical Examination			15
	Written Test			10
	Viva Voce			10
	Total			**35**
Part D	**Project Work/ Field Visit**			
	Practical File/ Student Portfolio			10
	Viva Voce			05
	Total			**15**
	GRAND TOTAL	**200**		**100**

DETAILED CURRICULUM/TOPICS:

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: INTRODUCTION TO IT–ITeS INDUSTRY			
S. No.	**LEARNING OUTCOMES**	**THEORY**	**PRACTICAL**
1	Appreciate the applications of IT	• Introduction to IT and ITeS, BPO services, • BPM industry in India, • Structure of the IT-BPM industry, • Applications of IT in home computing, everyday life, library, workplace, education, entertainment, communication, business, science and engineering, banking, insurance, marketing, health care, IT in the government and public service,	- Identify and list the various IT enabled services, Observe the application of IT in various areas.

UNIT 2: DATA ENTRY AND KEYBOARDING SKILLS			
S. No.	**LEARNING OUTCOMES**	**THEORY**	**PRACTICAL**
1.	Use keyboard and mouse for data entry	• Keyboarding Skills, • Types of keys on keyboard, Numeric keypad, • Home keys, Guide keys, • Typing and deleting text, • Typing ergonomics, • Positioning of fingers on the keyboard, Allocation of keys to fingers on four different rows, • Pointing device – Mouse, Mouse operations.	• Identify the keys and its use on the keyboard, • Demonstrate to use various keys on the keyboard, • Demonstrate to type the text, numbers, special character using appropriate keys on the keyboard, • Practice the correct typing ergonomics, • Practice to place fingers on correct key in four different row of keyboard, • Practice various mouse operations.
2.	Use typing software	• Introduction to Rapid Typing Tutor, • Touch typing technique, • User interface of Typing Tutor, • Typing text and interpret results, • Working with lesson editor, • Calculating typing speed, • Typing rhythm.	• Identify the user interface of • typing tutor, • Practice to type text in typing tutor software and interpret the results, • Practice to work in lesson editor, • Calculate the typing speed • Practice to improve typing • Using typing tutor software.

UNIT 3: DIGITAL DOCUMENTATION			
S. No.	**LEARNING OUTCOMES**	**THEORY**	**PRACTICAL**
1.	Create a document using a word processor	• Introduction to word processing, • Word processing applications, • Introduction to Word Processing tool • Creating a document, Parts of a Word Processor Window,	• List the available word processing applications. • Introduce with the parts of the main window. • Change document views. • Start a new document. • Open an existing document. • Save a document. • Close a document.
2.	Apply Editing features	• Text editing – Undo and Redo, • Moving and copying text, • Copy and Paste, • Selecting text, • Selection criteria, • Selecting non-consecutive text items, • Selecting a vertical block of • text, • Find and replace option, • Jumping to the page number, • Non-printing characters, • Checking spelling and grammar, • Using Synonyms and Thesaurus.	• Editing of text in a document • Demonstrate to use undo and redo option, • Use the keyboard and mouse options to select, cut, copy, paste, and move text. • Demonstrate to select nonconsecutive text items, vertical block of text, • Search and replace text in a document. • Jump to the given page number in a document, • Insert non-printing characters in a document, • Apply Spelling and grammar option of document. • Demonstrate to use Synonyms and Thesaurus.

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
3.	Apply formatting features	• Page style dialog • Formatting text – Removing manual formatting, Common text formatting, Changing text case, Superscript and Subscript • Formatting paragraph – Indenting paragraphs, Aligning paragraphs, Font colour, highlighting, and background colour, Using bullets and numbering, Assigning colour, border and background to paragraph. • Page formatting – setting up basic page layout using styles, Inserting page break, Creating header/footer and page numbers, • Defining borders and backgrounds, Inserting images shapes, special characters in a document, Dividing page into columns, Formatting the shape or image.	• Apply various text formatting options for the text, • Demonstrate to format paragraphs – indent/align paragraphs, assign font colour, highlighting, and background colour, • Assign number or bullets to the lists items • Demonstrate to assign colour, border and background to paragraph • Demonstrate the page formatting – set up basic page layout using styles, • Insert page break, Create header/footer and page numbers • Define borders and backgrounds • Insert images, shapes, special characters in a document • Divide page into columns, • Format the shape or image.
4.	Create and work with tables	• Creating table in Word Processor • Inserting row and column in a table • Deleting rows and columns • Splitting and merging tables • Deleting a table • Copying a table • Moving a table.	• Demonstrate and do the following in Word Processor: • Create table, • Insert and delete rows and column in a table, • Split and merge tables, • Delete a table, • Copy or move from one location to another location of document.
5.	Use Print Options	• Printing options in Word Processor. • Print preview, • Controlling printing, • Printing all pages, single and multiple pages.	• Demonstrate to print the document, selected pages in the document • Print the document with various options, • Preview pages before printing.

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
6.	Understand and apply mail merge	• Introduction to mail merge • Concept of data source for mail merge.	• Demonstrate to print the letters using mail merge, • Do the following to achieve • Create a main document, • Create the data source, • Enter data in the fields, • Merge the data source with main document, • Edit individual document, • Print the merged letter, • Save the merged letter.

UNIT 4: ELECTRONIC SPREADSHEET			
S. No.	**LEARNING OUTCOMES**	**THEORY**	**PRACTICAL**
1.	Create a Spreadsheet	• Introduction to spreadsheet application • Starting a spreadsheet • Parts of a spreadsheet • Worksheet – Rows and Columns, Cell and Cell Address, • Range of cells – column range, row range, row and column range.	• Start the spreadsheet, • Identify the parts of Calc, • Identify the rows number, column number, cell address, • Define the range of cell, • Identify row range, column range, row & column range
2.	Apply formula and functions in spreadsheet	• Different types of data, • Entering data – Label, Values, Formula • Formula, how to enter formula, • Mathematical operators used in formulae, • Simple calculations using values and operators, • Formulae with cell addresses and operators, • Commonly used basic functions in a spreadsheet – SUM, AVERAGE, MAX, MIN, Count • Use of functions to do calculations.	• Demonstrate to enter the text, numeric data in a cell, • Identify the label, values and formula in the cell, • Demonstrate to enter formula in a cell, • Construct the formula using mathematical operators, • Identify formulae with cell addresses and operators, • Identify the correct syntax of formula, • Use the basic functions to perform calculations on data.

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
3.	Format data in the spreadsheet	• Formatting tool, • Use of dialog boxes to format values, • Formatting a range of cells with decimal places, • Formatting a range of cells to be seen as labels, • Formatting of a cell range as scientific, • Formatting a range of cells to display times, • Formatting alignment of a cell range, • Speeding up data entry using the fill handle, • Uses of fill handle to copy formulae.	• Identify the formatting tool, • Demonstrate to use of dialog boxes to format values, • Demonstrate to format range of cells with decimal places, • Demonstrate to format a range of cells to labels, • Demonstrate to format of a cell range as scientific, • Demonstrate to format a range of cells to display time, • Demonstrate to align cell data range, • Demonstrate to create • number series using fill handle, • Copy formula by dragging the formula using fill handle.
4.	Understand and apply Referencing	Concept of referencing, • Relative referencing, • Mixed referencing, • Absolute referencing.	• Demonstrate to use Relative referencing in spreadsheet, • Demonstrate to use Mixed referencing in spreadsheet, • Demonstrate to use Absolute referencing in spreadsheet.
5.	Create and insert different types of charts in a spreadsheet	• Importance of chart in spreadsheet • Types of chart	• Create different types of charts supported by a spreadsheet, • Illustrate the example of chart in a spreadsheet.

UNIT 5: DIGITAL PRESENTATION			
S. No.	**LEARNING OUTCOMES**	**THEORY**	**PRACTICAL**
1.	Understand features of an effective presentation	• Concept of presentation, • Elements of presentation, • Characteristics of an effective presentation	• Identify and list the elements of presentation, • List the characteristics of an effective presentation.
2.	Create a presentation	• Introduction to presentation software, • Opening a presentation software • Parts of presentation window, • Closing a presentation • Creating a presentation using template, • Selecting slide layout, • Saving a presentation, • Running a slide show, • Save a presentation in PDF, • Closing a presentation, • Using Help.	• Start the presentation application • various components of main Impress window • Observe the different workspace views. • Create a new presentation using wizard. • Run the presentation, • Save the presentation, • Close the presentation, • Demonstrate to use Help in presentation.
3.	Work with slides	• Inserting a duplicate slide, • Inserting new slides, • Slide layout, • Copying and moving slides, • Deleting and renaming slides • Copying, moving and deleting contents of slide, • View a presentation, • Controlling the size of the view, • Workspace views – Normal, Outline, Notes, Slide sorter view.	• Demonstrate to insert a new slide and duplicate slide in a presentation, • Change the slide layout, • Demonstrate to copy and move slides in the presentation, • Demonstrate to copy, move and delete contents of the slide, • Demonstrate to view a presentation in different views.

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
4.	Format text and apply animations	• Formatting toolbar, • Various formatting features, • Text alignment, • Bullets and numbering. • Custom Animation	• Identify and list the various options in formatting toolbar, • Apply the appropriate formatting option • Align the text in presentation, • Apply bullets and numbering to the list items in presentation. Apply Animation
5.	Create and use tables	• Inserting tables in presentation, • Entering and editing data in a table, • Selecting a cell, row, column, table, • Adjusting column width and row height, • Table borders and background	Demonstrate the following: • Insert table in presentation, • Enter and edit data in a table, • Select a cell, row, column, table, • Adjust column width and row height, • Assign table borders and background.
6.	Insert and format image in presentation	• Inserting an image from a file, • Inserting an image from the gallery, • Formatting images, • Moving images, • Resizing images, • Rotating images, • Formatting using the Image toolbar, • Drawing graphic objects – line, shapes, • Grouping and un-grouping objects	• Demonstrate to insert an image from file, gallery in presentation, • Apply formatting options to image in presentation, • Demonstrate to move, resize and rotate images, • Apply formatting options of Image toolbar, • Drawing line, shapes using graphic objects, • Demonstrate to group and ungroup objects.
7.	Work with slide master	• Slide masters, • Creating the slide masters, • Applying the slide masters to all slide, • Adding transitions.	• Create the slide masters, • Apply the slide masters to the • presentation, • Add transitions to presentation.

LIST OF EQUIPMENT/ MATERIALS:

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

S. No.	ITEM NAME, DESCRIPTION & SPECIFICATION	QUANTITY
A	**HARDWARE**	
1.	Computer with latest configuration or minimum Pentium Processor with minimum 2GB RAM, 512 GB HDD, 17" LED Monitor, NIC Card, 3 button Mouse, 105 keys key board and built-in speakers and mic.	15
2.	Laser Printer - Black	01
3.	Inkjet Printers (Colour & Black)	01
4.	Scanner	01
5.	Online UPS 5 KVA	01
6.	16 Port Switches	01
7.	Air Conditioner 1.5 tonne	02
8.	Telephone line (For Internet)	01
9.	Fire extinguisher	01
B	**SOFTWARE**	
1.	Operating System Linux and Windows	
2.	Anti-Virus Latest version	
3.	Productivity Suite, Example –Libre Office	
C	**FURNITURE**	
1.	Class room chairs and desks	25
2.	Computer Tables	15
3.	Straight back revolving & adjustable chairs (Computer Chairs)	15
4.	Printer Tables	02
5.	Trainers Table	01
6.	Trainers Chair	01
7.	Steel cupboards drawer type	02
8.	Cabinet with drawer	01
9.	Steel Almira - big size	01
10.	Steel Almira- small size	01

TEACHER'S/ TRAINER'S QUALIFICATIONS:

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

Qualification	Minimum Competencies	Age Limit
Diploma in Computer Science/ Information Technology **OR** Bachelor Degree in Computer Application/ Science/ Information Technology (BCA, B. Sc. Computer Science/ Information Technology) **OR** Graduate with PGDCA OR DOEACC A Level Certificate. The suggested qualification is the minimum criteria. However higher qualifications will also be acceptable.	• The candidate should have a minimum of 1 year of work experience in the same job role. • S/He should be able to communicate in English and local language. • S/He should have knowledge of equipment, tools, material, Safety, Health & Hygiene.	• 18-37 years (as on Jan. 01 (year)) • Age relaxation to be provided as per Govt. rules

Teachers/Trainers form the backbone of Skill (Vocational) Education being imparted as an integral part of Rashtriya Madhyamik Shiksha *Abhiyan* (RMSA). They are directly involved in teaching of Skill (vocational) subjects and also serve as a link between the industry and the schools for arranging industry visits, On-the-Job Training (OJT) and placement.

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

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

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

OR

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

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

The educational qualifications required for being a Teacher/Trainer for a particular job role are clearly mentioned in the curriculum for the particular NSQF compliant job role. The State should ensure that teachers/ trainers deployed in the schools have relevant technical competencies for the NSQF qualification being delivered. Teachers/Trainers preferably should be certified by the concerned Sector Skill Council for the particular Qualification Pack/Job role which he will be teaching. Copies of relevant certificates and/or record of experience of the teacher/trainer in the industry should be kept as record.

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

(i) Written test for the technical/domain specific knowledge related to the sector;

(ii) Interview for assessing the knowledge, interests and aptitude of trainer through a panel of experts from the field and state representatives; and (iii) Practical test/mock test in classroom/workshop/laboratory.

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

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

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

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

- Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;
- Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;
- Make effective use of learning aids and ICT tools during the classroom sessions;
- Engage students in learning activities, which include a mix of different methodologies, such as project based work, team work, practical and simulation based learning experiences;

- Work with the institution's management to organise skill demonstrations, site visits, on job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;
- Identify the weaknesses of students and assist them in up-gradation of competency;
- Cater to different learning styles and level of ability of students;
- Assess the learning needs and abilities, when working with students with different abilities
- Identify any additional support the student may need and help to make special arrangements for that support;
- Provide placement assistance

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

Following parameters may be considered during the appraisal process:

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

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CURRICULUM FOR SESSION 2022-2023

PHYSICAL ACTIVITY TRAINER (SUBJECT CODE - 418)

JOB ROLE: EARLY YEARS PHYSICAL ACTIVITY FACILITATOR

CLASS – IX & X

COURSE OVERVIEW

Early Years Physical Activity Facilitator works in play schools, day care centers, apartments and clubs to teach age appropriate physical activities to build fundamental skills and fitness in children up to the age of 8 years. Early Years Physical Activity Facilitator looks after the smooth functioning of the physical activities and sports events of the school, organization, institute, etc. He/ She should possess the knowledge and skills of safety and management of play field, equipment and tools, conduction of sports events, assessment of student's physical activity and report preparation.

COURSE OUTCOMES:

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

1. Apply effective oral and written communication skills to interact with people and customers;
2. Identify the principal components of a computer system;
3. Demonstrate the basic skills of using computer;
4. Demonstrate self-management skills;
5. Demonstrate the ability to provide a self-analysis in context of entrepreneurial skills and abilities;
6. Demonstrate the knowledge of the importance of green skills in meeting the challenges of sustainable development and environment protection;
7. Demonstrate the knowledge of the importance of physical activity in child development;
8. Plan age appropriate physical activity;
9. Execute age appropriate exercise;
10. Demonstrate the knowledge of children health and safety;
11. Assess and evaluate the students;
12. Conduct recreational activities; and
13. Demonstrate the knowledge of maintaining records.

COURSE REQUIREMENTS:

The learner should have the basic knowledge of science.

COURSE DURATION:

Class IX	200 hrs.
Class X	200 hrs.
TOTAL	**400 hrs.**

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SCHEME OF UNITS

CLASS	THEORY	PRACTICAL	TOTAL
Class IX	50 marks	50 marks	**100 marks**
Class X	50 marks	50 marks	**100 marks**

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students of Class IX opting for skill subject along with other education subjects.

PHYSICAL ACTIVITY TRAINER (SUBJECT CODE - 418)

CLASS – IX (SESSION 2022-2023)

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

	UNITS	NO. OF HOURS for Theory and Practical		MAX. MARKS for Theory and Practical
Part A	**Employability Skills**			
	Unit 1 : Communication Skills-I	13		2
	Unit 2 :Self-management Skills-I	7		2
	Unit 3: Information and Communication Technology Skills-I	13		2
	Unit 4 :Entrepreneurial Skills-I	10		2
	Unit 5 :Green Skills-I	7		2
	Total	**50**		**10**
Part B	**Subject Specific Skills**	**Theory (In Hours)**	**Practical (In Hours)**	
	Unit 1: Role of Physical education in Child Development	24	15	20
	Unit 2: Planning Age Appropriate Physical Activity	15	24	
	Unit 3: Organizing Age Appropriate Physical Activities	16	32	20
	Unit 4: Children Health and Safety	8	16	
	Total	**63**	**87**	**40**
Part C	**Practical Work**			
	Practical Examination			15
	Written Test			10
	Viva Voce			10
	Total			**35**
Part D	**Project Work/ Field Visit**			
	Practical File/ Student Portfolio			10
	Viva Voce			05
	Total			**15**
	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	13
2.	Unit 2: Self-management Skills-I	07
3.	Unit 3: Information and Communication Technology Skills-I	13
4.	Unit 4: Entrepreneurial Skills-I	10
5.	Unit 5: Green Skills-I	7
	TOTAL DURATION	**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: Role of Physical Education in Child Development
- Unit 2: Planning Age Appropriate Physical Activity
- Unit 3: Organising Age Appropriate Physical Activities
- Unit 4: Children Health and Safety

UNIT-1: ROLE OF PHYSICAL EDUCATION IN CHILD DEVELOPMENT

LEARNING OUTCOME	THEORY	PRACTICAL
1. Identify the physical and emotional needsof the children	1. Domains for Early Childhood Development - Physical, Emotional, Social, Communicative, Adaptive, etc. 2. Development of fundamental motor skills – gross and fine motor skills 3. Cognitive development 4. Psychosocial wellbeing 5. School readiness 6. Understanding child activity	1. Prepare chart on domain for early childhood development 2. Prepare slide presentation on cognitive and psychological wellbeing
2. Identify factors influencing physical activities	1. Demographic factors (socio-economic status) 2. Biological factors (age, weight status) 3. Psychological factors 4. Behavioural factors 5. Social-cultural factors 6. Environmental factors	1. Group activity on demonstration of factors influencing physical activities 2. Write a paragraph on how Environmental factors influence physical activity

LEARNING OUTCOME	THEORY	PRACTICAL
3. Plan physical activities	1. Identifying physical activity sessions (everyday activities, recreational activities, sport) 2. Structuring physical activity sessions 3. Macro-planning 4. Meso-planning 5. Micro-planning 6. Weekly Planning 7. Lesson plan	1. Prepare flow chart on sequence of planning cycle. 2. Write a lesson plan
4. Conduct physical activities	1. Arranging play spaces 2. Props and equipment required for physical activity sessions 3. Conducting physical activity sessions	1. Write down brief note on the importance of equipment for conducting physical activities 2. Group discussion on conducting Physical Activity sessions

UNIT 2: PLANNING AGE APPROPRIATE PHYSICAL ACTIVITY

LEARNING OUTCOME	THEORY	PRACTICAL
1. Plan activities for increasing physical strength and coordination	1. Resources required for activities 2. Planning everyday activities 3. Planning recreational activities 4. Planning sport activities	1. List down the activities to be planned for everyday physical strength session 2. Draw the diagram of area required for free play games and list down the equipment needed
2. Plan activities for developing cognitive skills	1. Cognitive skills – Reading, Writing, Numeracy, etc. 2. Activities to be organized – Games, Singing, Dancing	1. Prepare poster for the dancing and singing activity 2. Discuss the various activities to cognitive skills
3. Manage class	1. Designing time table 2. Understanding Duration of activities as per learning outcomes	1. Prepare a time table for the physical activity class 2. Discussion on setting time duration for different activities

UNIT 3: ORGANIZING AGE APPROPRIATE PHYSICAL ACTIVITIES

LEARNING OUTCOMES	THEORY	PRACTICAL
1. Identify games for everyday activities	1. Fitness Activities 2. Specific sports training 3. Sports periods 4. Games	1. Identification of games appropriate for different classes and list them down 2. Discussion on selection of games for school
2. Organize sport activities	1. Sports days 2. Summer camp 3. Winter camp 4. Tournaments 5. Mass drills and display 6. Programs for parents and staff	1. Prepare a poster for the invitation of sports day and explain about the sequence of games 2. Prepare list of activities that can be conducted for the parents and staff and discuss in the class

UNIT 4: CHILDREN HEALTH AND SAFETY

LEARNING OUTCOMES	THEORY	PRACTICAL
1. Demonstrate the knowledge of child health care and habits	1. Child health 2. Factors influencing child health and hygiene 3. General Nutrition	1. Prepare a chart on Macro and Micro nutrition 2. Prepare poster on development of mental health 3. Group discussion on factors influencing child health
2. Describe the various aspects of safety management and emergency response	1. Storage facility for the equipment 2. Safe acts and safety measures in playground 3. Safety aspects related to use of equipment 4. Basic First Aid and response to emergency 5. Exit protocol	1. Draw the diagram of storage are of equipment 2. List down the safety aspects for the use of equipment 3. Prepare a chart on PRICE-R with relative pictures

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CURRICULUM FOR SESSION 2022-2023

HEALTH CARE (SUBJECT CODE - 413)

JOB ROLE: GENERAL DUTY ASSISTANT

CLASS – IX & X

COURSE OVERVIEW:

This is the basic course in Health Care where students will get the exposure to work in Hospital. The subject gives them a vast and wide insight of the traditional and contemporary aspects in Health care. The input of basic fundamentals, coupled with the practical knowledge.

OBJECTIVES OF THE COURSE:

In this course, followings are the main objectives of this course.

- To train paramedical staff for providing quality service to the society.
- To understand the effective communication, identification of hazards and their management.
- To understand the rules and regulations to be followed by a General Duty Assistant in a hospital.
- To understand the clinical duties that include taking and recording vital parameters, medical histories, preparing patients for examination and dispensing medical prescription.
- To understand administrative duties that include scheduling appointments, maintaining a rapport between patients and hospital administration.

SALIENT FEATURES:

- To understand the basic requirements of GDA like analytical skills, mechanical aptitude,good vision, coordination and self discipline.
- To train the GDA with work ethics, characterized by dedication and persistence, andability to deal tactfully with patients.
- To understand the utility of daily living activities.
- To have an elementary knowledge of common health problems and the procedures todeal with them.
- This course will empower the students to gain insights into what health care practitioners

actually do and the decisions they have to make in day to day life of hospital. This course is an effort to taught health care in more creative and visual way with the coverage of advances in new technology and the social web and how to take advantage of these in paramedic context.

LIST OF EQUIPMENT AND MATERIALS:

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

Material Required for:

1. Shelves for Stacking Products

Medical room containing the following: -

1. Sphygmomanometer
2. Thermometer
3. Wall Mounted Stadiometers
4. Weighing scale
5. Hospital bed with pillow
6. Side Table or tray
7. Bedside small stool
8. Hospital Stretchers
9. Blanket
10. First Aid box
11. Sanitizers
12. Wheel Chair
13. Nebulizer
14. Mattresses
15. Small Wastebasket or a bucket lined with a plastic garbage bag
16. Clock
17. Good source of light
18. Large bottle for water
19. Clipboard with paper and a pen for writing in the daily log
20. Bell or noisemaker to call for assistance

21. Cotton balls
22. Rubbing alcohol
23. Measuring cup capable for holding 250 ml
24. Aprons for GDA
25. Latex household cleaning gloves for GDA
26. Disposable vinyl gloves
27. N95 respiratory masks for use when sick person is coughing or sneezing
28. Medicines like Ibuprofen for reducing fever, sore throat and muscle aches
29. ORS to prevent dehydration
30. Good ventilation

CAREER OPPORTUNITIES

This basic course of Health Care will teach the students to learn how to analyze customer demand and promote good care to patients in hospital. This course will allow students to work in many different areas of paramedical departments. While all teach health care concept, this course is tailored for particular objective in order to most effectively prepare the students for theirparamedic career.

- Paramedical staff
- Nurse
- General Duty Assistance

VERTICAL MOBILITY:

This course will assist the participating students to further update their career by vertically moving either to B.Sc Nursing and health care oriented applied undergraduate courses of different university.

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.

HEALTH CARE (SUBJECT CODE - 413)

CLASS – IX (SESSION 2022-2023)

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

	UNITS	NO. OF HOURS for Theory and Practical 220	MAX. MARKS for Theory and Practical 100
Part A	**Employability Skills**		
	Unit 1 : Communication Skills-I	13	2
	Unit 2 : Self-Management Skills-I	07	2
	Unit 3 : ICT Skills-I	13	2
	Unit 4 : Entrepreneurial Skills-I	10	2
	Unit 5 : Green Skills-I	07	2
	Total	**50**	**10**
Part B	**Subject Specific Skills**		
	Unit 1: Health Care delivery systems	23	10
	Unit 2: Role of Patient care Assistant	23	10
	Unit 3: Personal Hygiene and Hygiene standards	24	10
	Unit 4: Primary Healthcare and Emergency Medical Response	15	05
	Unit 5: Immunization	15	05
	Total	**100**	**40**
Part C	**Practical Work**		
	Project	70	10
	Viva		05
	Practical File		15
	Demonstration of skill competency via Lab Activities		20
	Total	**70**	**50**
	GRAND TOTAL	**220**	**100**

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