

# CBSE | DEPARTMENT OF SKILL EDUCATION

## Modules for Middle School (class VI/VII/VIII)

CBSE has decided to offer students the flexibility of making a vocational choice of a short duration module, of 12 hours for each module, at a stage in their early academic career (either at Class VI, VII or VIII). In this way they will be able to spend relevant time period pursuing this choice as per convenience of school, while benefitting from access to courses that are broader based. This would give them the necessary orientation early on, so that they are able to make a choice at a later stage to pursue Skill courses at Secondary and Senior Secondary level, or choose a higher vocational degree.

In essence this flexibility will keep multiple career possibilities open for each student, instead of the current situation of rigidity once the first choice is made.

The following Skill Modules are being offered for students:

1. Artificial Intelligence
2. Beauty & Wellness
3. Design Thinking
4. Financial Literacy
5. Handicrafts
6. Information Technology
7. Marketing/ Commercial Application
8. Mass Media
9. Travel & Tourism

### OBJECTIVES:

The main objective of these modules is to develop a readiness for understanding and appreciating the various skills and their application in our lives.

### SCHEME:

At Middle level (Classes VI to VIII), one Skill Module of 12 hours duration can be offered as an option to the students for single academic session as per convenience of Schools.

Schools/students are free to opt for a Skill Module either at class VI or class VII or class VIII.

The marks distribution for each Skill Module is as follows:

Theory	15 marks
Practical	35 marks
<b>Total</b>	<b>50 marks</b>

The assessment shall be done internally by the school as per the above mentioned marks.

**The details about Skill Module are as follows:**

# 1. INTRODUCTION TO ARTIFICIAL INTELLIGENCE

## OBJECTIVES OF THE MODULE:

This module of Artificial Intelligence focuses on:

- ✚ Helping learners understand the world of Artificial Intelligence and its applications through games, activities, and multi-sensorial learning to become AI-Ready.
- ✚ Allowing the learners to construct the meaning of AI through interactive participation and engaging hands-on activities.

## OUTLINE CURRICULUM:

MODULE	SUB-UNIT	DURATION
<b>Introduction to Artificial Intelligence</b>	Excite	2.5 Hours
	Relate	02 Hours
	Purpose	02 Hours
	Possibilities	02 Hours
	AI Ethics	3.5 Hours
<b>TOTAL DURATION</b>		<b>12 hours</b>
<b>TOTAL MARKS</b>		<b>50 marks (Theory = 15 + Practical 35)</b>

## DETAILED CURRICULUM:

SUB-UNIT	LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
<b>1. EXCITE</b>	<ul style="list-style-type: none"> <li>• To identify and appreciate Artificial Intelligence and describe its applications in daily life.</li> </ul>	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.
	<ul style="list-style-type: none"> <li>• To relate, apply and reflect on the Human-Machine Interactions.</li> <li>• To identify and interact with the three domains of AI: Data, Computer Vision and Natural Language Processing.</li> </ul>	Recommended Activity: The AI Game Learners' to participate in three games based on different AI domains. <ul style="list-style-type: none"> <li>○ Game 1: Rock, Paper and Scissors (based on data)</li> <li>○ Game 2: Mystery Animal (based on Natural Language Processing - NLP)</li> <li>○ Game 3: Emoji Scavenger Hunt (based on Computer Vision - CV)</li> </ul>
	<ul style="list-style-type: none"> <li>• To undergo an assessment for analysing progress towards acquired AI-Readiness skills.</li> </ul>	Recommended Activity: AI Quiz (Paper Pen/Online Quiz)
	<ul style="list-style-type: none"> <li>• To imagine, examine and reflect on the skills required for futuristic job opportunities.</li> </ul>	Recommended Activity: 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
<b>2. RELATE</b>	<ul style="list-style-type: none"> <li>• Learners' to relate to application of Artificial Intelligence in their daily lives</li> </ul>	Video Session: To watch a video Introducing the concept of Smart Cities, Smart Schools and Smart Homes

SUB-UNIT	LEARNING OUTCOMES	SESSION / ACTIVITY / PRACTICAL
	<ul style="list-style-type: none"> <li>To unleash their imagination towards smart homes and build an interactive story around it.</li> <li>To relate, apply and reflect on the Human–Machine interactions.</li> </ul>	<p>Recommended Activity: Write an Interactive Story</p> <p>Learners’ to draw a floor plan of a Home/ School/ City and write an interactive story around it using the Story Speaker extension in Google docs.</p>
<b>3. PURPOSE</b>	<ul style="list-style-type: none"> <li>To understand the impact of Artificial Intelligence on Sustainable Development Goals to develop responsible citizenship.</li> </ul>	<p>Session: Introduction to UN Sustainable Development Goals</p> <hr/> <p>Recommended Activity: Go Goals Board Game</p> <p>Learners to answer questions on Sustainable Development Goals</p>
<b>4. POSSIBILITIES</b>	<ul style="list-style-type: none"> <li>To research and develop awareness of skills required for jobs of the future.</li> <li>To imagine, examine and reflect on the skills required for the futuristic opportunities.</li> <li>To develop effective communication and collaborative work skills.</li> </ul>	<p>Session: Theme-based research and Case Studies</p> <p>Learners will listen to various case-studies of inspiring start-ups, companies or communities where AI has been involved in real-life.</p> <p>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.</p> <hr/> <p>Recommended Activity: Job Ad Creating activity</p> <p>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.</p>
<b>5. AI ETHICS</b>	<ul style="list-style-type: none"> <li>To understand and reflect on the ethical issues around AI.</li> <li>To gain awareness around AI bias and AI access.</li> <li>To let the students analyse the advantages and disadvantages of Artificial Intelligence.</li> </ul>	<p>Video Session: Discussing about AI Ethics</p> <p>Recommended Activity: Ethics Awareness</p> <p>Students play the role of major stakeholders and they have to decide what is ethical and what is not for a given scenario.</p> <hr/> <p>Session: AI Bias and AI Access</p> <ul style="list-style-type: none"> <li>Discussing about the possible bias in data collection</li> <li>Discussing about the implications of AI technology</li> </ul> <hr/> <p>Recommended Activity: Balloon Debate</p> <p>Students divide in teams of 3 and 2 teams are given the same theme. One team goes in affirmation to AI for their section while the other one goes against it.</p> <p>They have to come up with their points as to why AI is beneficial/ harmful for the society.</p>

## 2. BEAUTY & WELLNESS

### CAREERS:

- ✚ Career in Beauty industry

### TOPICS TO BE COVERED:

- ✚ **Teamwork:** Learn How to shine with 21<sup>st</sup> century skills.
- ✚ Link personal behaviours with positive and negative customer service in order to create a positive impression at the workplace.
- ✚ **Awareness on Health & Wellbeing:** Importance of trimming nail, cleaning hairs, skin care/ face clean up and Healthy diet etc.
- ✚ **Makeup:** Simple make up services, survey on makeup products.
- ✚ **Success stories:** In Beauty & Wellness industry.

### 3. DESIGN THINKING

#### TOPICS TO BE COVERED:

- ✚ **Teamwork:** Learn How to shine with 21<sup>st</sup> century skills.
- ✚ Who produces better ideas: Individual or Team?
- ✚ How do designers think with things? Human factors & Ergonomics
- ✚ Properties of materials, Simple ways to boost creativity ,
- ✚ Invention & innovation, concept of Green/ Eco Design and Modeling.

## 4. FINANCIAL LITERACY

### TOPICS TO BE COVERED:

- ✚ **Teamwork:** Learn How to shine with 21<sup>st</sup> century skills.
- ✚ **Introduction to financial literacy :** Understanding basic financial concepts, Barter system, Needs & Wants, Trade, Bill / Cash memo, Need & source of borrowing
- ✚ **Banking:** Evolution of Money, Types of Bank, How to open a Bank Accounts, Banking operations.
- ✚ **Security:** Role of RBI, Do's & Don'ts for Online Banking.

## 5. HANDICRAFTS (FOR CLASS VI/VII OR VIII)

Handicrafts comprise of crafts related to Paper Mache, Fashion Jewelry and others

### LEARNING OUTCOMES:

- ✚ The student will be able to make Paper Mache Crafts with specialized innovative techniques.
- ✚ The student will be able to make 3D components of Paper Mache with the help of Sakhta Making.
- ✚ The student will be able to do paint and polish to the craft products.
- ✚ The student would be able to assemble their products.
- ✚ The student will be able to make Jewelry components.
- ✚ The student will be able to make crafts that are environmental friendly such as from (recyclable products).
- ✚ The student will be able to use basic tools and equipment required for making multiple crafts.

### CURRICULUM OUTLINE:

S. NO.	TOPIC	SUB -TOPIC	LEARNING OUTCOMES	DURATION (Hours)
1	<b>Introduction to Paper Mache Crafts</b>	<ul style="list-style-type: none"> <li>• How to use recyclable materials for making craft products.</li> <li>• How to make craft products based on environment friendly</li> <li>• Common tools and equipment required for making different crafts products.</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to identify the use of PPE while making craft products.</li> <li>• Differentiate the raw materials between recyclable and non-recyclable types required for making craft products.</li> <li>• To be able to identify the type and usage of the tools and equipment required in craft making.</li> </ul>	1
2	<b>Making of Paper Mache Crafts with the help of paper pulp</b>	<ul style="list-style-type: none"> <li>• Preparation of Paper Pulp</li> <li>• Making of Sakhta</li> <li>• Make New Design Trends</li> </ul>	<ul style="list-style-type: none"> <li>• To be able to make mould as per the design.</li> <li>• Perform the appropriate measures for drying the object</li> <li>• Identify the use of adhesives such as fevicol and glue for separating the object.</li> <li>• Identify theme and style requirements for designs</li> <li>• Differentiate the use of tools and equipment required for making crafts.</li> </ul>	2

<b>S. NO.</b>	<b>TOPIC</b>	<b>SUB -TOPIC</b>	<b>LEARNING OUTCOMES</b>	<b>DURATION (Hours)</b>
3	<b>Prepare Paper Mache Crafts with innovative ways</b>	<ul style="list-style-type: none"> <li>• Study and adapt to design trends relevant to product class</li> <li>• Specifying design processes</li> <li>• Implementation of design processes</li> </ul>	<ul style="list-style-type: none"> <li>• Use of creative designs based on the usage of Paper Mache Crafts requirements.</li> <li>• Identify the different quality parameters required for making the products.</li> <li>• Follow the standard procedures for drying and finishing the final product.</li> </ul>	2
4	<b>Understand the basic activities involved in finishing the object</b>	<ul style="list-style-type: none"> <li>• Preparation of Lacquer</li> <li>• Apply the painting and polishing techniques on the final product</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare the appropriate solution required for paint the object based on design.</li> <li>• Differentiate the appropriate use of brushes and clothes in order to achieve standard finishing on final product.</li> </ul>	2
5	<b>Prepare the Fashion Jewelry components</b>	<ul style="list-style-type: none"> <li>• Collect Raw Materials</li> <li>• Arrange Tools and Equipment</li> <li>• Selection of Design</li> </ul>	<ul style="list-style-type: none"> <li>• Collect and arrange the materials for process.</li> <li>• Arrange the decorative jewel piece with gems, stones, stickers, bone, horn and pearls.</li> <li>• Interpret the design based on standard parameters.</li> </ul>	1
6	<b>Make Jewelry decorative jewelry components</b>	<ul style="list-style-type: none"> <li>• Assemble the Jewelry components</li> <li>• Check for defects</li> <li>• Perform quality checks on final product made.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform coloring, pasting, cutting, hammering, brushing etc.</li> <li>• Apply cleaning processes to make the product dust and sand free.</li> <li>• Evaluate the final product based on design specifications.</li> </ul>	2
7	<b>Project Work</b>	<ul style="list-style-type: none"> <li>• Prepare the complete final product which is ready for showcasing.</li> </ul>	<ul style="list-style-type: none"> <li>• How to represent the product effectively.</li> <li>• How to synthesize innovation and creative knowledge while creating the product.</li> </ul>	2
			<b>TOTAL HOURS</b>	<b>12</b>



## 6. INFORMATION TECHNOLOGY

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

- ✚ Identify the principal components of a computer system;
- ✚ Demonstrate the basic skills of using computer;
- ✚ Understand a problem and break it into logical steps to come to a conclusion
- ✚ Identify IT/ Gamified solutions for small applications in the form of computer programmes
- ✚ Use the computer for the data entry process with speed and accuracy.
- ✚ Develop Scratch Programs
- ✚ Understand basic cyber safety and security norms

### SALIENT FEATURES OF THE COURSE

The course will equip students with skills to identify various devices of computer and their features. Content of the course has been designed as such to make students capable of independently working on a desktop and be able to develop applications to handle computations of small scale and record keeping. Students will develop following skills:

- Improve Computational And Thinking Skills
- Problem Solving Skills
- Decision Making
- logical and analytical skills

Students will not only gain knowledge about the basics of computer but will also develop confidence in developing small applications through gamification.

### LIST OF EQUIPMENT AND SUPPORT MATERIAL

The list given below is suggestive and not an exhaustive list to be prepared by the vocational teacher. Only basic tools, equipment's and accessories should be procured by the institution so that the routine tasks may be performed by the students:

- Computer/ Laptop / Tablet
- Scanner
- Projector
- Printer
- Software : Scratch, Draw (or any other open source to draw flowcharts)
- Hub/Switch
- Internet

Students should be exposed to various functional units, Office applications, Network security systems/ devices / field visits to gain knowledge and expertise.

## 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 VI-VIII opting for vocational subject along with general education subjects. The unit-wise distribution of hours and marks is as follows:

Units		No. of Hours for Theory and Practical		Max. Marks for Theory (15)	Max. Marks for Practical (35)
1	UNIT -1 : FUNDAMENTALS OF COMPUTER	2	3	4	5
2	UNIT -2 : ALGORITHM & FLOWCHART	2	4	3	12
3	UNIT-3 : SCRATCH	6	8	3	15
4	UNIT-4: CYBER SECURITY	2	3	5	3
<b>Total</b>		<b>12</b>	<b>18</b>	<b>15</b>	<b>35</b>
				<b>Total Marks 50</b>	

## UNIT WISE DETAILED CURRICULUM

### Unit-1 Fundamentals of Computer

S. No.	Learning Outcome	Theory	Practical
1.	Understand and appreciate fundamentals of Computer and its characteristics	<ul style="list-style-type: none"> <li>• Introduction to Fundamentals of Computer and its use</li> <li>• Characteristics of computer</li> <li>• Block diagram of computer</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and enlist various applications of computer</li> <li>• illustrate various components of computer under different blocks</li> <li>• illustrate functions of various components of computer</li> </ul>
2.	Understand the components of computer	<ul style="list-style-type: none"> <li>• Identify various components of computer (Hardware , Software (Operating System examples)</li> <li>• appreciate function and use of I/O devices, Storage devices</li> <li>• various memory units of storage</li> </ul>	<ul style="list-style-type: none"> <li>• Application of various types of I/O , Storage devices,</li> <li>• Creating , Renaming , Deleting and arranging Files &amp; Folders on a storage device</li> </ul>
3.	Understand the importance of Utilities	<ul style="list-style-type: none"> <li>• Disk Space management</li> <li>• Disk Cleanup</li> <li>• Managing Recycle Bin</li> <li>• learning disk defragmentation</li> <li>• restart the system</li> <li>• Learn to search for a file.</li> </ul>	<ul style="list-style-type: none"> <li>• illustration to view the disk storage</li> <li>• to apply Disk Cleanup utilities to enhance performance of the system</li> <li>• to identify, view and manage Recycle Bin</li> <li>• restart the computer</li> <li>• to search different files using various options and wildcard characters</li> </ul>

## Unit 2: ALGORITHM & FLOWCHARTS

S. No.	Learning Outcome	Theory	Practical
1.	<ul style="list-style-type: none"> <li>Define purpose and scope of the Problem Statement.</li> <li>Identify the tasks in chronological order.</li> <li>Organize them by type and corresponding shape, such as process, decision, data, inputs or outputs.</li> <li>Able to solve a problem using Flowchart</li> </ul>	<p>Introduction to Problem Solving through Algorithm and Flowcharts</p> <p>Steps for Problem Solving</p> <p>Representation of Algorithm through Flow Charts</p> <p>Basic Symbols and Shapes of Flowcharts</p>	<p>Write Algorithms &amp; draw Flow Chart-</p> <p>Examples:-</p> <ul style="list-style-type: none"> <li>Calculate Square of a Number</li> <li>Check For leap year</li> <li>Eligibility to Vote</li> <li>Calculate Area and Perimeter of Rectangle</li> </ul>

## Unit 3: SCRATCH

S. No.	Learning Outcome	Theory	Practical
1.	Understand and Implement the Interface of Scratch	<p>To understand the Interface and make use of Sprites in Scratch</p> <p>Making use of Online and Offline Interface</p>	<ul style="list-style-type: none"> <li>Create a new Sprite.</li> <li>Adding new background</li> <li>Controlling the movement of Sprite</li> <li>Taking Input values into the scratch</li> </ul>
2.	Using Various Blocks	<ul style="list-style-type: none"> <li>Motion Blocks</li> <li>Pen Block</li> <li>Ask Block</li> <li>Answer Block</li> <li>Control Block – Conditional Statements – If then else block</li> <li>Iteration Statements               <ul style="list-style-type: none"> <li>Repeat Until Block</li> <li>Forever Block</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Moving Sprite in various directions</li> <li>Creating programs to make use of Motion, Pen , Ask and Answer,</li> <li>Conditional and Iteration Blocks</li> </ul>
3.	Implementing Event handlers	<ul style="list-style-type: none"> <li>Using and Implementing Events Like When Clicked</li> <li>When Key Pressed</li> <li>Broadcasting Messages</li> </ul>	<ul style="list-style-type: none"> <li>Creating Programs using event handlers</li> </ul>
4.	Using Variables	<ul style="list-style-type: none"> <li>Defining Variables in Programs,</li> <li>Using operators and Updating the Values of Variables</li> </ul>	<ul style="list-style-type: none"> <li>Developing Program using Variables and Operators</li> </ul>
5.	Implement Animation in Scratch	<ul style="list-style-type: none"> <li>Making use of simple Animation such as changing Sprites, using different blocks.</li> </ul>	<ul style="list-style-type: none"> <li>Creating an animated application:</li> <li>Example – Changing location &amp; Costumes to give an effect of animation</li> </ul>

**Unit 4: CYBER SECURITY**

<b>S. No.</b>	<b>Learning Outcome</b>	<b>Theory</b>	<b>Practical</b>
1.	Understand Internet and its terminology	<ul style="list-style-type: none"><li>• Define Internet, LAN, MAN, WAN , PAN, Bandwidth</li></ul>	<ul style="list-style-type: none"><li>• Analyze the Bandwidth, to check/view Data transfer rate in computer lab/ devices</li></ul>
2.	Understand cybercrime and the need of Cyber Security	<ul style="list-style-type: none"><li>• Malware : Virus, Worm, Trojan, Spam</li><li>• Types of Cyber Crime :<ul style="list-style-type: none"><li>- Cyber Trolling,</li><li>- Cyber Bullying,</li><li>- Phishing,</li><li>- Cyber Stalking</li></ul></li><li>• Cyber Security :<ul style="list-style-type: none"><li>- Password Protection,</li><li>- Firewall</li></ul></li><li>• Antivirus</li><li>• Netiquettes</li><li>• Cyber law: Indian IT Act 2000</li></ul>	<ul style="list-style-type: none"><li>• Find out the threats encountered and the security measures used in a network.</li><li>• Reference Link: <a href="https://www.cyberlawsindia.net">https://www.cyberlawsindia.net</a></li></ul>

## 7. MARKETING / COMMERCIAL APPLICATION

### TOPICS TO BE COVERED:

- ✚ Students learn how to shine with 21<sup>st</sup> century skills.
- ✚ Basic Marketing Concepts , Types of Market
- ✚ Factors influencing in customer choice : psychological, sociocultural, economic, government
- ✚ Importance of Ethical Behaviour in Marketing : truth, accuracy and good taste in advertising, products that may damage health, engaging in fair competition

## 8. MASS MEDIA

### CAREERS:

- ✚ Influential effect of mass media on modern life around the globe.

### TOPICS TO BE COVERED:

- ✚ **Teamwork:** Learn How to shine with 21<sup>st</sup> century skills.
- ✚ **Mass-Media & Society:** Communications models that explain the dynamics of mass media, the nature of the transmissions of cultural contexts, and the impact of mass media on individuals and communities in a society that has a free and independent press.
- ✚ **Media Literacy:** Students will use their comprehension skills, knowledge base, and information from various media sources to develop a broad perspective.
- ✚ **Writing Skills:** Students write, present, or produce narrative in response to media stories and reports to demonstrate command of language (Standard English/ Hindi/ Regional Language) with critical thinking and an awareness of the intended audience.

## 9. TRAVEL & TOURISM

### CAREERS:

- ✚ A world of discovery awaits in Travel, Tourism and Hospitality; look at opportunities and exciting careers available.

### TOPICS TO BE COVERED:

- ✚ **Teamwork:** Students learn how to shine with 21<sup>st</sup> century skills.
- ✚ **Hospitality:** Explore the café or restaurant scene and learn the basics from food hygiene to hot & cold beverages. Then in small groups use your imagination and create your very own café/restaurant along with name, logo and menu!
- ✚ **World Tourism Destinations:** Explore some of the worlds key tourist destinations, what makes them so unique and some of their cultural differences. Different types of Accommodation and Transportation, Domestic and International Airports.
- ✚ **Incredible India Tourism:** Look at the many types of tourists that visit India and the economic, cultural and environmental impact they have on our nation.