



***EXCELSIOR HIGH SCHOOL***  
***INDUSTRIAL TECHNIQUES***  
***CURRICULUM GUIDE***  
***GRADE: 7***

***INDUSTRIAL ARTS DEPARTMENT***

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**INDUSTRIAL TECHNIQUES****GRADE: 7****FIRST TERM : CHRISTMAS**

**GENERAL OBJECTIVE 1: Defining and exploring basic terms and concepts to get a fuller understanding of the value of resources and the role of technology in human development.**

<b>Teaching Sessions (40 mins / session)</b>	<b>Topics/Content Outline</b>	<b>Expected Outcomes &amp; Skills</b>	<b>Suggested Activities</b>	<b>Evaluation</b>
	<b>1.1 RESOURCES</b>			
<b>WEEK 1</b> 2 sessions	INTRODUCTION (a) Definition of resources	- Understand the concept of resources		
<b>WEEK 2</b> 2 sessions	(b) Classification of resources (i) HUMAN <ul style="list-style-type: none"> <li>• Skill,</li> <li>• unskilled</li> </ul> (ii) NON-HUMAN <ul style="list-style-type: none"> <li>• Artificial</li> <li>• Natural</li> </ul>	- Differentiate between kinds of resources  -Identify various Professions and Careers.	Compilation of a scrapbook depicting various type resources.  Collect and display various resources	Grading of scrapbook by teacher and student  Grading of display by teacher

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	<b>1.2 TECHNOLOGY</b>			
<b>WEEK 3</b> 2 sessions	(a) Definition of technology	- Understand the concept of resources	Brainstorm to identify technology in every day	
	(b) Classification of technology <ul style="list-style-type: none"> <li>• simple</li> <li>• advance</li> </ul>	Recognize the role of technology.	Compile a list simple and advance technologies Make chart depicting classification of technology.	Matching of items Matching of items
<b>WEEK 4</b> 2 sessions	c) Appropriate Technology i) Selecting the right tools for the job.	Select appropriate Technology to solve Problems.	Identify technology appropriate for a given task.	Matching of items
<b>WEEK 5</b> 2 sessions	d) Safety and Hygiene in the use of technology.	Demonstrate proper use and care of tools and equipment.	Make chart outlining safety rules.	Grade students' selection, use and care of tools.
	e) Advantages and Disadvantages of technology			

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
<b>WEEK 6</b>	<b>REVISION</b>			
<b>WEEK 7</b>				<b>FIRST MONTHLY TEST</b>
	<b>1.3 The Design Process</b>			
<b>WEEK 8-9</b> 4 sessions	a) Meaning – Process used in "Resource and technology" to arrive at solutions or meet needs.	Define the term "Design Process".	Research information on aspects of the design process.	Grade research
	b) Stages in the "Design Process". <ul style="list-style-type: none"> <li>• Identify needs or Problems.</li> <li>•</li> </ul>	Identify the stages in the design process.  Explain each stage of the design process.	Simulation (role play) of the design process in problem solving activities.	Checklist of stages in the completion of the task/s

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
<b>WEEKS 10-12</b> 6 sessions	<ul style="list-style-type: none"> <li>Consider resources and Produce alternative Solution.</li> <li>Plan the work</li> <li>Make the product or solution</li> <li>Evaluate product or solution against original need.</li> </ul>			
<b>WEEK 13</b>	<b>REVISION</b>			
<b>WEEK 14</b>				<b>2<sup>ND</sup> MONTHLY TEST</b>

**SECOND TERM - EASTER TERM**

	<b>1.4 THE DESIGN BRIEF</b>			
<b>WEEK 1</b> 2 sessions	(a) Statement of the Problem e.g. construction of an egg holder.	Understand the Concept of design brief.	Outline a design brief for a problem to be solved.	Assessment of students work.

	(b) Function - 'purpose for solution'.	Perform the task Expected at each Stage of the design Brief.	Preparation of worksheet with design brief for problem to be solved.	
	(c) Resources - materials and tools to be used in solving the problem.			
	(d) Technology- Measuring, laying-out, cutting, assembling.			

**GENERAL OBJECTIVE 2: Identifying and utilizing human resources for the improvement of the quality of life.**

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	<b>2.1 SELF ANALYSIS</b>			
<b>WEEK 2</b> 2 sessions	(a) Knowledge of resources And technologies used in the design and development of products.	Identify resources used in specific Industries.	Compilation of a Scrapbook depicting various technologies.	Grading of presentation
	(b) Skills in using technology	Identify various skills	Research on the roles of	Grading of

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
		Required in given Industries.	various categories of workers in industry.	research report.
	<b>2.2 Human Resources in Industry</b>			
	(a) Categories of human resources <ul style="list-style-type: none"> <li>• Unskilled</li> <li>• Skilled</li> <li>• Technician</li> <li>• Professional</li> </ul>	Appreciate the roles of human resources in industry.	Role-play to highlight roles of various categories of workers.	Assessment of list
	<b>2.3 TEAMWORK UTILIZING HUMAN RESOURCES IN VARIOUS CONTEXTS</b>			
<b>WEEK 3</b> 2 sessions	(a) Home (b) School (c) Community (d) Industry	Recognize the value of Teamwork. Recognize the value of Work. Conduct research and Make presentation.	Group research and Presentation on teamwork.	Grading of group presentation
	<b>3.1 CLASSIFICATION OF MATERIALS</b>			
<b>WEEKS 4-5</b> 4 sessions	(a) Natural <ul style="list-style-type: none"> <li>i) Wood</li> <li>ii) Stone</li> <li>iii) Sand</li> <li>iv). Oil</li> <li>v) Use of natural materials</li> </ul>	Differentiate between Natural-and synthetic Materials.	Mounting of display, on Various types of natural And synthetic materials.	Grading of display
	b) Synthetic <ul style="list-style-type: none"> <li>i) Plastic</li> </ul>			

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	ii) Ceramic iii) Rubber iv) Glass v) Metal vi) Use of synthetic materials			
	<b>3.2 RENEWABLE AND NONRENEWABLE RESOURCES</b>			
<b>WEEK 6</b> 2 sessions	(a) Definition of terms (b) Types/Categories	Differentiate between Renewable and non-renewable resources.	Group research on Renewable and non-Renewable resources.	Grading of research.
<b>WEEKS 7-8</b>				<b>MID YEAR EXAMS</b>
	<b>3.3 CLASSIFICATION OF TOOL</b>			
<b>WEEK 9</b> 2 sessions	(a) Layout (b) Cutting (c) Driving (d) Holding (e) Supporting (f) Boring (g) Abrasives	Identify and classify Tools.	Games and puzzles based on classifying tools.  Group research on the classification of tools	Grading of research.



Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	<b>3.4 USE OF TOOLS</b>			
<b>WEEK 10</b> 2 sessions	(a) Safety considerations (b) Care and maintenance (c) Using tools.	Demonstrate safe and accurate use of tools.  Demonstrate basic care and maintenance of tools.	Construction of project using basic hand tools.	Grading of projects
	<b>3.5 ENERGY</b>			
<b>WEEKS 11-12</b> 4 sessions	a) Definition of energy  b) Sources/Types <ul style="list-style-type: none"> <li>• Mechanical</li> <li>• Electrical</li> <li>• Solar</li> <li>• Hydro</li> <li>• Wind</li> <li>• Chemical</li> <li>• Geothermal</li> <li>• Nuclear</li> <li>• Uses of various types of energy</li> </ul>	Appreciate the use of various forms of energy.  Design basic electrical circuits	Research on sources of energy.  Experiments; energy production.  Design of basic electrical circuits.	Grading of experiment, circuit and model by teacher and students.
	(c) Conservation of energy	Appreciate the importance of energy conservation	Compile a list of conservation techniques	Grading of list

**THIRD TERM - SUMMER TERM****GENERAL OBJECTIVE 4: Development skills in accessing, analyzing and utilizing information**

<b>Teaching Sessions (40 mins / session)</b>	<b>Topics/Content Outline</b>	<b>Expected Outcomes &amp; Skills</b>	<b>Suggested Activities</b>	<b>Evaluation</b>
	<b>THIRD / EASTER TERM</b>			
	<b>3.6 COMMUNICATION</b>			
<b>WEEK 1</b> 2 sessions	(a) Definition of communication (i) Types of communication (ii) the communication process			
<b>WEEKS 2-3</b> 4 sessions	(b) Communication devices i. Telephone ii Ham radios iii. Citizen band radio iv. Computer	Understand the operating principle of communication devices.  Knowledge of a basic communication system	Conduct a group research on the operating principles of communicating devices.  Construct a cord Telephone  Design of basic communication system	Grading of the group research  Grading of the cord phone  Grading of the communication system design.

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	<b>4.1 SOURCES OF INFORMATION</b>			
<b>WEEK 4</b>  4 sessions	i. Books ii Magazines iii. Electronic Media iv. Print Media v. Computer / Internet vi. Resource Persons vii. Manuals viii. Specification Plates ix. Working Drawings	Identify various sources and types of information.	Compilation of scrapbook depicting various sources and types of information.  Educational tour of a library	Grading of scrapbook (Teachers and students)
<b>WEEK 5</b>				<b>3<sup>rd</sup> MONTHLY TEST</b>
	<b>4.2 ACCESSING INFORMATION</b>			
<b>WEEK 6</b>  2 sessions	(a) Reading (b) Interviewing (c) Discussing (d) Surveying (e) Observing	Access information using a variety of techniques.	Research project involving accessing and utilizing information	Grading of research project.
	<b>4.3 ANALYSING INFORMATION</b>			
<b>WEEKS 7-9</b>  6 sessions	(a) Categorizing (b) Ordering (c) Comparing (d) Assessing	Analyze information for the purpose of making decisions	Design of chart showing the steps in solving a given problem. Construction of an item to solve a problem.	Grading of students' work

Teaching Sessions (40 mins / session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	<b>4.4 UTILIZING INFORMATION</b>			
<b>WEEK 10</b> 2 sessions	(a) Make Informed Decisions/Selections <ul style="list-style-type: none"> <li>• Purchasing materials and equipment</li> <li>• Designing Products</li> <li>• Developing Products</li> </ul>	Use information to guide the decision- making process.  Appreciate the use of Information in the decision-making process	Compilation of guideline to be followed when making a purchase.	Grading of students' work
<b>WEEK 11</b>	<b>REVISION</b>			
<b>WEEKS 12-13</b>				<b>End of YEAR Examinations</b>