

BASIC TECHNOLOGY

JUNIOR SECONDARY SCHOOL (JSS 3)

FIRST TERM

| WEEK | TOPICS/CONTENTS |
|-------------|--|
| 1. | CAREER PROSPECT AND OPPORTUNITIES IN TECHNOLOGY I. Definition of Career, Prospect, Career Prospects II. Related Career Opportunities |
| 2. | PROCESSING OF MATERIALS – WOOD I I. Concept of Wood Processing (Growth and Felling) – State and Define 2. The Stages of Wood Processing |
| 3. | PROCESSING OF WOOD II I. Conversion II. Seasoning |
| 4. | PROCESSING OF WOOD – Manufactured Board I. Defects II. Preservation |

5. PROCESSING OF MATERIALS – METHODS

Alloys – Definition, Types, Properties and Uses

6. PROCESSING OF MATERIALS – CERAMICS AND GLASS

Methods, Production and Uses

PLASTICS AND RUBBER

I. Methods of Processing Plastics and Rubber

II. Uses

7. DRAWING PRACTICES (PICTORIAL DRAWING) – ISOMETRIC DRAWING

I. Definition

II. Construction of Simple Objects

8. DRAWING PRACTICES – OBLIQUE DRAWING

I. Definition

II. Types

III. Construction of Simple Objects

9. PERSPECTIVE DRAWING

I. Definition

II. One Point Perspective

10. ORTHOGRAPHIC PROJECTION

- I. Definition
- II. Types (1st and 3rd angle)
- III. Drawing of Orthographic Views of Simple Objects
- IV. Dimension Technique

11. SCALE AND SCALE DRAWING

- I. Definition (Define Enlargement and Reduction)
- II. Types (Identify Enlargements Ratio and Reduction Ratio)
- III. Scale Drawing

12. SIMPLE BLUE PRINT READING

- I. Simple Details of a Building Plan
- II. Common Symbols used and their Interpretation

13. REVISION AND EXAMINATION

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SECOND TERM

| WEEK | TOPICS/CONTENTS |
|-------------|--|
| 1. | REVISION OF LAST TERM'S WORK |
| 2. | BUILDING CONSTRUCTION I – BUILDING COMPONENTS Identification of Parts of a Building |
| 3. | FOUNDATION Types and Uses (Define, State Types and make Sketches of Foundation, Walls and Floors) WALLS AND FLOORS I. Types II. Walling Materials (Mention Walling Materials and Uses) III. Floor Materials |
| 4. | BUILDING COMPONENTS II - WINDOWS, DOORS AND ROOFS - Types, sketches and uses |

5. WOODWORK PROJECTS – WOODWORK JOINTS

- I. Types and uses (State types, Uses and make sketches of woodwork joints)
- II. Simple woodwork projects (produce various simple objects)

6. WOODWORK PROJECTS

Simple Woodwork Projects – Produce Simple Wood Projects using Simple Machine and Tools

7. METALWORK PROJECTS I – METAL JOINING

- I. Methods of Joining Metals
- II. Tools and Materials used for Joining Metals

8. METAL WORK PROJECTS II

Simple Metal Work Projects e.g. Bottle Opener, Trash Bin/Cans, etc.

9. MACHINE MOTION – MOTION IN ENGINEERING SYSTEM

- I. Definition (Define Motion and State Types of Motion in Engineering System)
- II. Types (Linear and Rotary)
- III. Conversion (Explain the need of Conversion from Rotary to Linear and Vice Versa, Mention Devices/Machines that carryout the Conversion).
- IV. Application

10. SIMPLE ELECTRICAL WIRING I

Schematic Diagram of Electrical Circuit (Series and Parallel) – Draw and Read Simple Electric Circuit Diagram.

SIMPLE ELECTRICAL WIRING II

Wiring Tools and Materials – Identify, Select and Use Appropriate Tools and Materials to Wire Simple Electric Circuit

11. – 13. REVISION AND EXAMINATION

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THIRD TERM

| WEEK | TOPICS/CONTENTS |
|-------------|--|
| 1. | REVISION OF LAST TERM'S WORK |
| 2. | FAULT DETECTION I. Definition (trouble shooting) II. Tools for Fault Detection |
| 3. | BASIC ELECTRONICS I I. Identify Electronic Devices II. Basic Emission Theory III. Types of Electronic Devices – Describe and Demonstrate their Functions |
| 4. | BASIC ELECTRONICS II I. Components (Mention and Identify Components of Electronic Devices) II. Uses (Mention Uses Components of Electronic Devices) |
| 5. | MACHINE MOTION I. Linear Motion |

- II. Lever Arrangement to produce Linear Motion (Explain the use of Lever, Linkages, Slides and Slots to produce Linear, Motion in a Mechanical System)
- III. Use of Slides and Slots in Mechanical System

6. MACHINE MOTION

- I. Rotary Motion – One Way e.g. Shaft of Running Car. (Explain Types and Application of Rotary Motion).
- II. Reversible Rotary Motion e.g. Load down of Cranes, Brakes, Clutches and Ratchets. (Explain the needs to convert Rotary Motion to Linear Motion).

7. – 12. REVISION AND EXAMINATION.