Second term Basic Technology E-Lesson Note

SUBJECT: BASIC TECHNOLOGY **CLASS JSS 1**

SCHEME OF WORK

WEEK	TOPIC
1	REVISION
2	DRAWING INSTRUMENTS AND MATERIALS
3&4	BOARD PRACTICE
5&6	FREEHAND SKETCHING
7	WORKBENCH FITTINGS & APPLIANCES
8	TYPES OF BUILDINGS& BUILDING MATERIALS
9	BUILDING MATERIALS(CONTD)/BUILDING COMPONENTS-WINDOWS, DOORS AND ROOFS
10	REVISION
11	EXAMINATION

REFERENCE MATERIALS

1. MELRVE, Basic science and technology for JSS, Book 1
2. NERDC, Basic Technology for JSS, Book 1

WEEK ONE

TOPIC: REVISION

1. _____ is the processes (methods) and products (materials) that make life easy and stress free (a) Machine (b) Tool (c) Equipment (d)Technology
2. Technology is derived from the Greek words *tekhnē,* which refers to a/an___ (a) art or craft (b) test (c) training (d) trash.
3. The following are products of technology except (a) stone (b) microwave (c) aircraft (d) computer
4. The following are causes of accidents except (a) using appropriate safety devices (b) Lack of concentration (c) horseplay (d) Lack of carefulness in handling machines
5. _____ are to be used to stop fire from destroying lives (a) Extinguishers and bucket of sand (b) Helmets (c) Boots (d) Goggles
6. is a place where activities such as fabrication, designing, construction and drawing take place. (a) Factory (b) Hospital (c) Hostel (d) Workshop.
7. _____ means protection from, or not being exposed to, the risk of harm or injury (a) Methodology (b) Skill (c) Safety (d) Technology
8. _____is a negative experience that happens to somebody when he does not expect it (a) An accident (b) Disease (c) Fire outbreak (d) Electrical sparking.
9. The materials used in technology include the following except (a) wood (b) metals (c) ceramics(d) cassava
10. The major parts of a tree are as follow except (a) roots (b) trunks (branches) and leaves (c) flowers and seeds (d) furniture

11. Examples of soft wood trees include the following except (a) spruce and vine (b) cedar (c) cypress. (d) Afara
12. The group of metals that contains iron is known as (a) ferrous metals (b) non-ferrous metals (c) alloys. (d) terrazzo
13. The group of metals that has no iron is not magnetic. Examples are as follow except (a) aluminum ,(b) copper ,(c) steel (d) brass
14. Glass is used to manufacture eye glasses and lenses because of this property. Choose from the options. (a) Brittleness (b) resistance to corrosion (c) transparent (d) resistance to heat.
15. Which of the following is not used in making ceramics? (a) Lime (c) Cement (d) Mud.
16. The following are products of ceramics, except (a) flower vase (b) tiles (c) wash basin (d) electric bulb.
17. ---------is a hard,brittle heat-resistant material made by firing a mixture of clay and chemicals at high temperature (a) Plastic (b) Rubber (c) Ceramic (d) Wood
18. The following are properties of ceramics except (a) Ceramics are resistant to corrosion (b)They can withstand very high temperature (c)They are electrical resistant (d)ceramics are not brittle
19. _____ is a light material that is produced by chemical processes and can be formed into shapes when heated (a) Rubber (b) Plastic (c) Metal (d) Wood
20. _____ are plastic materialsthat become soft and pliable when heated, without a change in their intrinsic properties (a) Thermometers (b) Thermo-engine (c) Thermosets (d) Thermoplastics

WEEK TWO
TOPIC: DRAWING PRACTICE: DRAWING INSTRUMENTS AND MATERIALS
CONTENT

- Definition of Technical Drawing
- Drawing Instruments and Materials
- Drawing Instruments and Materials
- Care and Storage Of Drawing Instruments and Materials

DEFINITION OF TECHNICAL DRAWING

Technical drawing is a universal language used for communication among technical people. Technical people are the engineers, technicians, builders, draughts men, etc.
It is the language expressed in terms of graphical illustrations which convey the idea of the shape, size and other features of engineering components used in the manufacturing and construction industries.
We study drawing so that we can draw objects for people to see and understand what we have in mind without talking or writing too much

DRAWING INSTRUMENTS AND MATERIALS I

A good and accurate drawing can be made through constant practice with the aid of drawing instruments and materials.
Below are some examples:
1. Drawing board

2. Tee square
3. Compass
4. Divider
5. Drawing paper
6. Sharpener
7. Drawing pencil
8. Adhesive tape
9. Eraser
10. Emery cloth
11. Glass paper

DRAWING INSTRUMENTS AND MATERIALS II

Other lists of drawing instruments and materials which are made up of acrylic (transparent plastic) include:

1. Set squares (30^0 by 60^0 and 45^0 by 45^0)
2. Protractor
3. Scale rule
4. Metric rule
5. French curve
6. Template
7. Lettering set

EVAUATION

1. Define technical drawing and list five examples of technical people.
2. List five example each of (a) acrylic materials (b) non-acrylic material

CARE AND STORAGE OF DRAWING INSTRUMENTS AND MATERIALS

Drawing board

1. Do not use pins for fastening your paper to the board, rather use tapes or clips
2. Do not use a razor blade to cut something on the surface.
3. Always cover the surface with cardboard.
4. Keep the drawing board in a safe place.

TEE SQUARE

1. Never use the tee square as a walking stick.
2. Do not use a pen knife or blade along the edge of the tee square.
3. Always hang your tee square after use.
4. Always keep your tee square clean.

SET SQUARE, SCALE RULE, PROTRACTOR

1. Do not use any sharp object on them.
2. Keep them away from fire.
3. Always keep them in a safe place after use.

PAIR OF COMPASS OR DIVIDER

1. Do not sit or step on them.

2. When not in use, keep them away in a safe container.
3. Never use a compass or divider as paper holder.
4. Do not use their needle point to punch holes.

EVALUATION
1. Mention two ways by which you can take care of drawing board.
2. Mention two ways by which you can take care of set square and protractor.

READING ASSIGNMENT
Read on Drawing instruments and materials from Introductory Technology (JSS1) by Melrose.Pages 135-140

WEEKEND ASSIGNMENT
1. _____ is a universal language used for communication among technical people (a)Scaling
(b) Technical drawing (c) Sketching (d) Oblique.
2. Technical people include the following except (a) engineers (b) technicians(c) builders and draughtsman (d) lawyer
3. Which of the following is not a drawing instrument (a) set squares (b) French curve (c) microscope (d) pencil
4. The following are the ways of caring for a tee square except (a) use it as a toy gun (b) never use the tee square as a walking stick (c) do not use a pen knife or blade along the edge of the tee square (d) always hang your tee square after use.
5. Set squares are used to draw the following inclined angles except (a) 30^0 (b)60^0 (c)45^0 (d) 70^0

THEORY
1. Define technical drawing.
2. Mention five (5) drawing instruments and materials.
3. State five (5) drawing instruments and materials which are made up ofacrylic (transparent plastic).
4. State how to care for (a) a drawing board (b) a tee square (c) a set square

WEEK THREE AND FOUR
TOPIC: BOARD PRACTICES AND SCALE DRAWING
CONTENT
- Definition of board practice
- Setting up the board
- Drawing of lines
- Positioning of the title block

DEFINITION OF BOARD PRACTICE
Board practice is the act of learning how to use drawing instrument on drawing board to draw vertical, horizontal, incline lines etc., in order to display good board practice, it is necessary to

use the appropriate drawing instruments which includes the following: 1. Drawing board 2. Tee-square 3. Set-square 4.Pair of compasses 5.Divider 6.Protractor 7. HB, 2H pencil 8. Eraser

SETTING UP THE BOARD
Step 1 Place the drawing board conveniently on the table with the square edge to the left-hand side.
Step 2 Place the drawing paper on the board, leaving equal space all round.
Step 3 Place the tee-square on the paper, and gently slide or move the tee-square to the top edge of the paper.
Step 4 Set the top edge of the paper parallel to the edge of the tee-square, with the stock of the tee- square firmly against the edge of the drawing board on the left-hand side.
Step 5. Gently slide the tee-square down without moving the paper.
Step 6 Cut of pieces of adhesives tape to hold the paper in position, and place them over the four corners of the paper.

EVALUATION
1. Define board practice.
2. Mention the steps involved in setting up the board.

DRAWING OF LINES
All horizontal lines are drawn with the aid of tee-square, usually from left to right, and rotating the pencil as the line is drawn. This ensures uniform thickness of the line.
The set-square is used sitting on the tee-square to draw upright or vertical lines on the paper. Angled lines are also drawn with the set-square turned in different directions.

POSITIONING OF TITLE BLOCK
Title block is at the bottom right-hand corner of the drawing which consist of the following information (a) Title of Drawing (b) Name of object (c) School (d) Scale (e) Date
The title block should be lettered free-hand in single stroke capitals. The two types of lettering are vertical and inclined. Only one method of lettering should be used.

EVALUATION
1. How can horizontal and vertical line be drawn?
2. List the information required in title block.

READING ASSIGNMENT
Read on board practice from Introductory Technology JSS1 by Evans (pg13-17)

WEEKEND ASSIGNMENT
1. Title block is at the……...hand corner of the drawing (a) left (b) right (c) right-left (d) left-right
2. Drawing instrument used in board practice include the following except (a) Tee-square (b) Protractor (c) Set-square (d) 5H pencil
3. The types of lettering are (a) horizontal & vertical (b) vertical &vertical (c) vertical & incline (d) horizontal & incline
4. How many methods should be used while lettering (a) one (b) two (c) three (d) four

5. Horizontal lines should be drawn using (a) set-square (b) tee-square (c) free-hand (d) none of the above

THEORY

1. Define board practice.
2. List the information required in title block.

WEEK FIVE AND SIX Date:……

TOPIC: FREEHAND SKETCHING

CONTENT

- Meaning of freehand sketching
- Sketching a straight line
- Sketching a curve and a circle
- Sketching a square and an irregular edge
- Definition of scale drawing
- Materials and instruments for scale drawing
- Types of scale drawing

DEFINTION OF FREEHAND SKETCHING

Freehand Sketching is one of the quickest methods by which the shape of an object can be communicated to others. This is done by using a pen or pencil.

Architects think more of imaginary objects; they cannot take photographs but express this using freehand sketching.

Therefore, the knowledge of freehand sketching is of advantage. A good sketch reduces the task of writing needed to describe the object on the mind of the designer. The ability to make a freehand sketching is a valuable asset acquired through practice.

SKETCHING A STRAIGHT LINE

A straight line can be defined as the shortest distance between two points.

Straight line can be sketched following the procedures below:

1. Put a dash or dot far enough to the right-hand side of the paper.
2. Start to draw a line from the left hand side to join the dash or dot with your eyes fixed on the point.

……..

EVALUATION

1. Define freehand sketching.
2. Describe how to sketch a straight line.

SKETCHING: A CURVE AND CIRCLE

A. Curve: To draw a curve by freehand, it will be necessary to plot some points not too far from each other at different levels like this :
With the points in position, attempt to draw curves to join them.

B. Circle: To draw circles, the easiest way is to draw lines which are equal in diameter to the circle in different directions. Each line must be drawn as faint as possible, with each crossing one another at a point, Now join the points by little curves from the tip of each line.

SKETCHING: A SQUARE AND AN IRREGULAR EDGE

This can be sketched in isometric or oblique view.Isometric view is at 30^0 to the horizontal the at both sides .Oblique view is at 45^0 to the horizontal at one side

EVALUATION

1. Describe how to sketch a curve and a circle.
2. Describe how to sketch a square and an irregular edge.

DEFINITION OF SCALE DRAWING

Scale drawing can be defined as the accurate representation of objects in a determined proportion.Scale drawing is different from ordinary drawing in that it presents the object either reduced or enlarged. There are scales for reduction and for enlargement of the size of the object.

MATERIALS AND INSTRUMENTS FOR SCALE DRAWING

A. Metric rule

This has two flat straight edges. It is usually 30cm long. Each main division on the metric rule is equal to one centimeter (1cm =10mm) and each division is sub divided into 10 units being 1mm.Always start from 0 as the beginning of your measurement.

B. Scale rule

These have three straight edges and are triangular in shape. Each edge is graduated and each scale designation is marked on the rule.

EVALUATION

1. Define scale drawing
2. State the materials and instruments for scale drawing

SCALE

Some objects are too big for the actual size to be contained on a drawing paper, while some are too small for the parts to be clearly seen. Hence, such objects should be drawn to an appropriate scale.
Scale is usually given as a ratio and they are stated in the title block.

TYPES OF SCALE DRAWING

A scale is used to draw or read a scale on a drawing paper
We have the following scales:

1. Full scale drawing
2. Reduced scale drawing

3. Enlarged scale drawing

FULL SCALE DRAWING
In this scale drawing, the object is drawn to the same size with the actual size. e.g. 1:1

REDUCED SCALE DRAWING
The actual size of the object is reduced in proportion to the drawing. Reduced scale drawing is used when the object is too big, examples include 1:2 , 1:5 ,1:10 , 1:50 ,1:100
Therefore a cupboard of size 1800mm long drawn as 18mm has a reduced scale drawing of 1:100mm

ENLARGED SCLAE DRAWING
This is used when the object to be drawn is too small to be clearly seen .Here, the actual size of the object is enlarged in the proportion to the drawing.
Examples include 2:1, 10:1, 100:1,

Drawing size ——100:1 = actual size

EVALUATION QUESTIONS
1. Define scale drawing.
2. Mention three (3) types of scale drawing.

READING ASSIGNMENT
Read on Scale Drawing from Introductory Technology (JSS1) by Evans. Pages 19-20

WEEKEND ASSIGNMENT
1. _____ is one of the quickest methods by which the shape of an object can be communicated to others.(a) Technical drawing (b) Freehand sketching (c)Scale drawing (d) Isometric drawing
2. _____ can be defined as the shortest distance between two points.(a) Straight line (b) Curve (c)Circle (d) Square
3. Isometric view is at ____ to horizontal at both sides (a) 30^0 (b)45^0 (c) 60^0 (d) 90^0
4. Oblique drawing is at ____ to the horizontal at one side (a) 30^0 (b)45^0 (c) 60^0 (d) 90^0
5. The following are the advantages of free hand sketches except ……..
(a) A good sketch reduces the task of writing needed to describe the object on the mind of the designer. (b) The ability to make freehand sketching is a valuable asset to practice Engineering
work. (c) Laypersons can express themselves by freehand sketches. (d) Materials are wasted by freehand sketches.
6._____ can be defined as the accurate representation of objects in a determined proportion (a) Scale drawing (b) Freehand sketches (c) Technical drawing (d) Isometric drawing
7. In _____ scale drawing, the object is drawn to the same size with the actual size. e.g. 1:1 (a) enlarged (b) reduced (c) full (d) proportioned

8. In _____ scale drawing the actual size of the object is reduced in proportion to the drawing .It is used when the object is too big , examples include 1:2 , 1:5 ,1:10 , 1:50 ,1:100 (a) enlarged (b) reduced (c) full (d) proportioned
9. In the scale expressed below 50 is the _____ of the object 50:1 . (a) actual size (b) drawing size (c) proportioned (d) regular
10._____ scale drawing is used when the object to be drawn is too small to be clearly seen (a) Enlarged (b) Reduced (c) Full (d) Proportioned

THEORY

1. Define freehand sketching.
2. Describe how to sketch a straight line, curve and circle.
3. Define scale drawing.
4. a. State the materials and instruments for scale drawing.

b. Mention three (3) types of scale drawing.

WEEK SEVEN **Date:……**

TOPIC: WORKBENCH FITTINGS & APPLIANCES

CONTENTS

- WORKBENCH
- WORK BENCH FITTINGS
- VICE
- BENCH STOP
- BENCH HOOK
- G-CLAMP
- SASH CLAMP
- F-CLAMP

WOODWORK BENCH

A woodwork bench is a platform on which the wood workers perform their wood workers activities.

The size of the woodwork bench is usually 2.0m by 0.80m by 0.90m. The centre of the woodwork bench is always lower than the edges and this is called WELL.

The function of the well is for keeping the tools needed during the woodwork activities. Being lower, tools cannot fall or roll onto the floor or on anyone's feet

WOODWORK BENCH FITTINGS

Woodwork bench fittings are the appliances fitted to the workbench before the commencement of any woodwork operation.

EVALUATION QUESTIONS

1. Define a workbench
2. Describe and state the function of a well on workbench
3. Define woodwork bench fittings

Workbench fittings include the following:

1. VICE

2. BENCH STOP
3. BENCH HOOK
4. G-CLAMP
5. SASH CLAMP
6. F-CLAMP

VICE
The bench vice is made up of cast iron and possesses a release lever, which allows quick movement and grip.
The vice is fixed to the side of the bench.It is used to hold the wood firmly to side of the workbench.

BENCH STOP
This is a small strip of wood or metal fixed on top of the bench.It is used prevent wood from slipping off the bench top during planning.

BENCH HOOK
This is used for holding jobs during cutting chiseling on the bench.
At the same it protects the bench top

G-CLAMP
This is a metal clamp used for clamping small jobs to the bench while sawing or chiseling. It can also be used to hold other small jobs together. It is called a G-clamp because of its shape, which is in the form of letter "G
The clamp is ideal for holding small pieces of wood together by applying pressure at a specific point. Scrap wood should be placed between the jaws and the work to prevent it from leaving marks in the work.

SASH CLAMP
This is a larger clamp used for holding and drawing wood together when assembling or gluing work light and heavy-duties types are also available. When using sash –clamp, a piece of waste wood should also be placed between the jaw will dig in and spoil the work.

F-CLAMP
This is used like the G-clamp. It has a quick action adjustment.The clamp in the form of letter "F"

EVALUATION QUESTIONS
1. State FIVE (5) examples of woodwork bench fittings
2. Describe and state the function of the followings (a) Bench (b) G –clamp
3. What precaution must we take when using sash clamp in the workshop.
4. What is the major difference between F-clamp and sash clamp.

READING ASSIGNMENT: Read about woodwork bench and fittings
Reference Books

(i) EVANS Basic Technology for JSS book 1.
(ii) NERDC Basic Technology for JSS book 1.

WEEKEND ASSIGNMENT

1. A woodwork bench is a platform for doing ____ (a) wood works (b) all works in the workshop (c) metal work (d) electrical work
2. The size of the woodwork bench is 2.0m by 0.80mand _____ (a) 9.0 m (b) 0.09m (c) 0.90m (d) 900m
3. The prevent wood from slipping off the bench top during, smoothing , the device used is _____ (a) bench hook (b) bench stop (c)bench vice (d) bench fitting.
4. _____ is the shortest distance between two points (a) box (b) square (c) straight (d) curve .
5. In isometric drawing, the base lines are inclined at ___ to the horizontal (a) 20^0 (b) 80^0 (c) 45^0 (d) 30^0

THEORY

1. State the importance of using freehand sketching.
2. Mention five(5) woodwork bench fittings.

WEEK EIGHT
TOPIC: TYPES OF BUILDINGS& BUILDING MATERIALS
CONTENT
Content

- Types of Building
- Common building materials
- Doors
- Windows

Types of building

- **Bungalow**: It is dwelling built in a style developed from that of a form of rural house in India. The original bungalow typically has one story, few rooms, and a maximum of cross drafts, with high ceilings, unusually large window and door openings, and verandas on all sides to shade the rooms from the intense light and tropical heat. A house that is built on one level.
- **One-storey building**: A house that has a ground floor and the first floor only.
- **Multi-storey building:** A house that has many levels.
- **Skyscrapers**: A very tall building.
- **Detached building**: A house that is joined with another building at one side.
- **Semi-Detached building**: A house that is joined with another building at one side.

- **Duplex:** A house that is made up of two apartments.
- **Mansion**: A very large house.
- **Terraced houses:** These are blocks of building that are constructed together side by side.

Evaluation

1. State ten(10) types of building and explain**.**

2. What type of building is the 'Diligence campus of Good Shepherd School'.

COMMON BUILDING MATERIALS

Building materials could be natural or man-made and can be classified into:

a. **Primary/non-convectional materials**: These are materials used for constructing buildings in their natural state without any processing. They are also known as traditional materials e.g. mud, stone, grass, straw, timber etc.

b. Secondary/convectional materials: Theseare materials that have undergone processing and have changed in structure e.g.cement, steel, bricks, precast concrete, glass, etc.

Materials used in building construction

	Building Element	**Primary materials**	**Secondary material**
1.	Foundation	Mud, Stone	Sand-Crete blocks
2.	Wall	Mud, Stone, timber, bamboo, mud bricks	Sand-Crete blocks, red bricks
3.	Wall decoration	Animal dung, local dye, cowries	Cement plaster, paints, tiles
4.	Roof	Bamboo, forest wood, corrugated metal sheets	Seasoned timber, planks, nails
5.	Ceiling	Mat, asbestos	Asbestos, plywood, plaster of Paris (P.O.P)
6.	Floor	Mud, cement screed	Concrete
7.	Window	Timber, mat	Glass, aluminum, metal, timber
8	Doors	Wood/planks	Plywood, timber, metal
9.	Wall Shelve	Forest wood	Timber, plywood, glass

10.	Lintel	Thick timber	Concrete with iron rod
11.	Columns	Wooden posts timber, Mud bricks	Concrete poles with reinforcement

Evaluation

1. List five primary and secondary building materials.
2. Mention five materials used in constructing window.

DOORS

Movable barrier installed in the entry of a room or building to restrict access or provide visual privacy. Early doors were hides or textiles. With monumental architecture came pivoting doors of rigid, permanent materials; important chambers often had stone or bronze doors. Pompeiian doors looked much like modern wooden doors; they were constructed of stiles (vertical planks) and rails (horizontal planks) fastened together to support panels and occasionally equipped with locks and hinges. The typical Western medieval door was of vertical planks backed with horizontal or diagonal bracing. In the 20th century, a single, hollow-core panel door became most common. Other types include the revolving door, folding door, sliding door (inspired by the Japanese shoji), rolling door, and Dutch door (divided horizontally so that the lower or upper part can be opened separately).

Functions of doors

1. They serve means of shutting and opening the entrance or exit.
2. They serve as barriers against dangers and attacks
3. They serve as protection of lives and properties.
4. They serve as means of ventilation.

Types of doors

1. Interior doors

a. Panel doors
b. Flush doors
c. French doors
d. Louver doors

2. Exterior doors: They are used for decorative purpose only. They are carefully chosen to suit the architectural design of the building.
3. Sliding doors: They are space-saving doors, which are for closets in bedrooms.
4. Folding Doors: These are doors, which are easily installed as they as they take little
5. Revolving Doors: They are usually traffic control doors within a building

Evaluation
1. State four(4) functions of doors
2. State five(5) types of doors

WINDOWS
Windows, today, are more of architectural features rather than mere necessary opening in a wall.

Function of windows
1. It is used for admitting light and air.
2. It serves as barriers to dangers and attacks.
3. It is used to allow ventilation.

We have the following architectural designed windows:
1. Bull's eye windows
2. Semi-circular headed windows.
3. Cant bay windows
4. Dormer windows

Evaluation
1. State four(4) functions of windows
2. State five(5) types of windows

Reading Assignment

Read BUILDING CONSTRUCTION I

Reference Materials
1. NERDC, Introductory Technology for JSS, book 3, pages 218 -228
2. EVANS, Introductory Technology for JSS, book 3, pages 130 -138

Weekend Assignment
1. The following are types of building except (a) Terraced house (b) Sheraton hotel (c) Bungalow (d) Sky scraper
2. Blocks of building that are constructed together side by side is called ____ (a) Terraced house (b) one-storey (c) Bungalow (d) Sky scraper
3. The following are building operations except (a) setting out (b) erection of walls (c) roofing (d) contracting
4. The type of floor that consists of a series of closely spaced reinforced I-beams framing into girders is called __ (a) one-way ribbed slab (b) one-way reinforced floors (c) two-way reinforced floors (d) pre-cast concrete floors
5. The following are examples of interior doors except (a) panel doors (b) flush doors (c) French doors (d) revolving doors

Theory
1. State the functions of door.
2. State the different types of floor

WEEK NINE **DATE**_____
TOPIC: BUILDING MATERIALS(CONTD) & BUILDING COMPONENTS
CONTENT
- Floors
- Types of Floors
- General Floor Finishes
- Roof

FLOORS
This is a flat bottom surface in or on any structure. It is a rigid building assembly that divides space horizontally into stories. It forms the bottom of a room. It may consist of joist-supported wood planks or panels, decking or panels supported by wood or steel beams, a slab of stone or concrete on the ground, or a reinforced-concrete slab carried by concrete beams and columns. The floor assembly must support its own dead load plus the live load of occupants, activities, and furnishings. The horizontal supports beneath its top surface—and the vertical supports into which they frame—must be sufficiently large and spaced closely enough to prevent sagging of the assembly

Types of floors
1. Solid Floors: These are concrete which may simply be finished with smooth surface or laid with tiles (plastic and linoleum floor tiles), which are not normally laid down in specifications.

2. Suspended Floors: It consists of wood, which is nailed over solid lengths of timber, ends of which are supported by the main walls of building.

Evaluation
1. Describe a floor.
2. State the different types of floor.

We have the following types of solid floors:
- **One-way reinforcing system:** The reinforcing elements are laid to run in one direction
- **Two-way reinforcing system:** The reinforcing elements are laid to run in two directions.
- **Concrete slab floor with light gauge decking**: These are light gauge steel deck, covered with a concrete slab.
- **One-way ribbed slab floor**: This type of floor consists of series of closely spaced reinforced I-beams framing into framing into girders.
- **Pre-cast concrete floor system:** It involves the production of standard pre-cast members, which use ordinary reinforcing bars

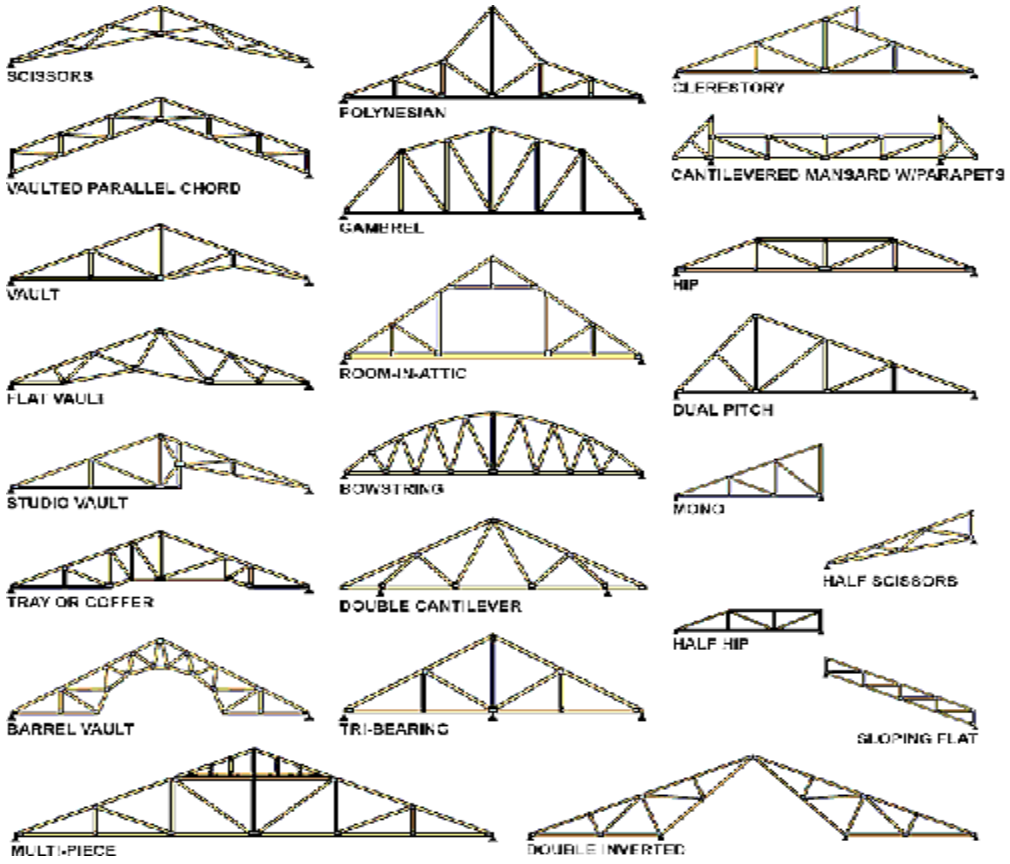
General floor finishes
Surface of floors in dwelling houses may be terrazzo finished, painted, waxed, tiled, or carpeted. Other types of finish are in the form designs such as parquetry flooring e.t.c.
a) Parquet floor
b) Terrazzo floor
c) Tile floor or linoleum (rubber)

Evaluation
1. State five(5) types of flooring system.
2. State three(3) general floor-finishes.

ROOF
Roof is a building structure that provides covering for the entire building and protects any internal decoration or fittings from the weather and thereby rendering the house habitable.
Types of roofing
There are different kinds of roof today but we are going to emphasize only the most common ones found around and these include: Gambrel, Shed, Hip, Butterfly, Gable, or Pitched, Flat (made of galvanized metal sheet or concrete), Monitor, Half monitor, Arched, Combination, Lean-to, Collar and Mansard roof respectively.

COMMON ROOFS
1. Hip roof: The hip roof has four slanting surfaces from a peak known as ridge. It has a shortening effect on the length of the building roof.
2. Pitched roof: (Gabble): It has two surfaces sloping away from the ridge. A typical characteristic of pitched roof is a cavity wall at gable end, and vent between the fascia and suffit, which prevents the rafter timbers from disintegration.
3. Shed roof: This is the simplest form of roof construction, having only one slope usually to the rear of building.

4. Butterfly roof: This is a double shed roof which slopes inwards with
5. Half roof
6. Half Monitor roof
7. Monitor roof
8. Combination roof
9. Arched roof
10. Mansard roof



Evaluation

1. State five(5) types of roofs.
2. Sketch five(5) types of roofs.

READING ASSIGNMENT

Read **BUILDING CONSTRUCTION**

Reference Materials

1. NERDC, Introductory Technology for JSS, book 3, pages 218 - 228
2. EVANS, Introductory Technology for JSS, book 3, pages 130 - 138

Weekend Assignment

1. ____ is a building structure that provides covering for the entire building (a) door (b) windows (c) roof (d) floor
2. Which of the following is geometrically inclined (a) Bull's eye window (b) French window (c) panel window (d) combination window
3. The following are functions of windows except (a) It is used for admitting light and air.(b) It serves as barriers to dangers and attacks. (c) It is used to allow ventilation. (d) It is used for collection of rain
4. The following are functions of roof except (a) Shed (b) Hip (c) Butterfly (d) panel
5. The type of roof that is suitable for factory is (a) hip roof (b) butterfly (c) monitor (d) panel roof

Theory

1. Mention nine(9) types of roof.
2. State the functions of windows.

