Practical No.1: Identify the different construction materials used in a Construction.

I. **Practical Significance-**The Knowledge of Basic construction materials is the primary requirement for civil engineering. Identifying different construction materials is crucial for ensuring structural integrity, cost-effectiveness, and safety in construction projects. It aids in selecting materials suitable for specific purposes, understanding durability factors, and complying with building codes and regulations.

II. **Industry or Employer Expected Outcome-**

Undertake safe building construction practices with relevant building materials.

III. **Course Level Learning Outcome-**

Identify relevant type of construction materials for the given type of building.

IV. **Laboratory Learning Outcome-**

Identify the different construction materials used in a Construction.

V. **Relevant Affective domain related Outcome**

1. Follow safety practices
2. Practice good housekeeping

VI. **Relevant Theoretical Background**

1. Construction of the structures is the basis of development of any country and the world. For Construction process different kinds of materials are required.
2. Stone, bricks, timber lime, Cement, Sand jellies and tiles are the traditional building materials.
3. Use of steel, aluminum, glass, glazed Tiles, plaster of Paris (POP), paints and varnishes are improved the quality of buildings and other Structures.

VII. **Actual Diagram with equipment specification**

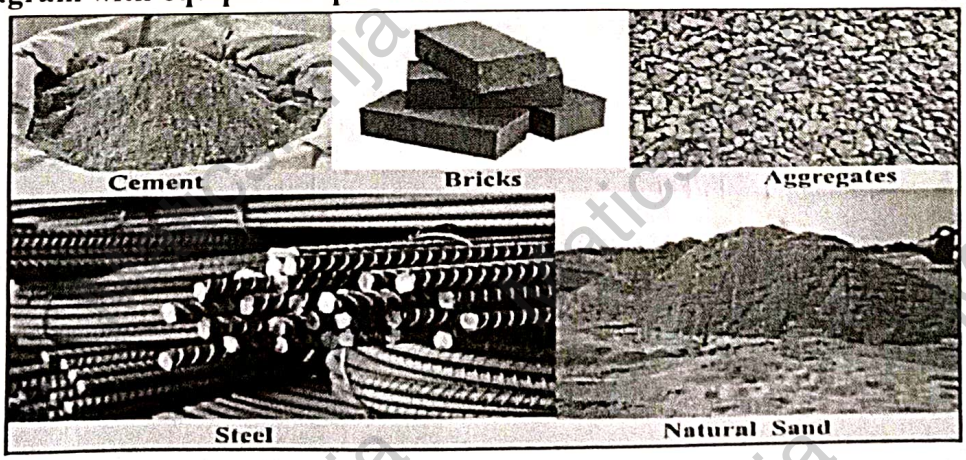

Figure 1.1: Basic Construction Materials

VIII. Resources required

Sr. No.	Particulars	Specification	Quantity	Remark
1	Measurement Scale	15 or 30 cm length	1 No.	Per batch
2	Cement	---	1 Bag	Per batch
3	Steel	---	---	Per batch
4	sand and aggregates	---	---	Per batch
5	Bricks	---	10 Nos.	Per batch

IX. Precautions to be followed

1. Handle the particular construction material very carefully so that it will not break at any stage.

X. Procedure

1. Collect the information of various construction material from sources like wall charts, internet websites, journals or books etc.
2. Discuss the construction material and its physical properties and uses with batch mates.
3. Teacher should display various construction material in the laboratory.
4. Student should observe the construction material by handling properly and note down the same in observation table provided.

XI. Observation Table

Sr. No.	Physical Properties	Uses	Type of Material
1	Hardness	Wall construction	Bricks
2	Durability	road bridges	concrete
3	Ductility	structured frame	steel
4	light Weight	roofing dools	timber
5	transparency	window facades	glass

XII. Result

It looks likes your working on a observation table related to construction material.

XIII. Interpretation of results

From the completed observation table we can interproject the following key points about construction material and the it physical Properties

XIV. Conclusions and Recommendations (if any)

Each construction material has unique physical properties that determine it's application.

XV. Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO. Write answers of minimum three questions.

1. State the nos. of construction material samples available in your laboratory.
2. Name the material which is used generally for decorative purpose in constructions.
3. State uses of .....material. (Teacher should mention the type of construction material)
4. State four physical properties of ..... Material **(Teacher should mention the type of construction material)**
5. State the importance of building Construction Material.

Q. ⟶ ?

Ans:- Bricks, concrete blocks, cement, sand aggregate, steel, timber, glass, tiles

Q. 2 ⟶ ?

Ans:- marble, granite, glass, tiles wood, Metal

Q. 3 ⟶ ?

Ans:- Bricks, concrete, steel, timber, cement Bitumen

Q. 4 ⟶ ?

Hardness parasity, thermal, instruction Density Elasticity non porous.