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Satya Institute of Technology and Management

MATERIALS SCIENCE & METALLURGY
 II B.Tech II-Semester

Unit 1 (Part A)
 STRUCTURE OF METALS AND CONSTITUTION OF ALLOYS

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References

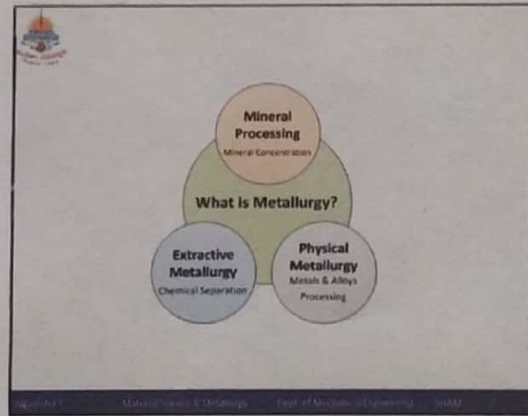
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Metallurgy



- Metallurgy is a domain of Materials Science and Engineering that studies the physical and chemical behaviour of metallic elements, their inter-metallic compounds, and their mixtures, which are called alloys.
- Metallurgy is used to separate metals from their ore.



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Surveying & Geometries
 Topic: Compass Surveying

Civil Engineering Department

Instruments used for compass surveying:

The various instruments used in the compass survey are :

- Prismatic compass
- Tape
- Ranging rods
- Tripod
- Arrows



Compass surveying:

- The principle of compass surveying is traversing.
- In traversing, the framework, consists of a number of connected lines.
- The method of traversing is adopted when the area is large.
- The ground is undulating and crowded with many details.
- A compass is a small instrument essentially consisting of magnetic needle, graduated circle and a line of sight.

Types of compass

- The prismatic compass
- The surveyor's compass

Prismatic compass →

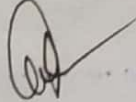
Prismatic Compass

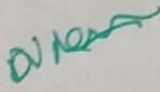
- Prismatic Compass comprises of a magnetic needle attached to the circular ring made up of aluminium.
- The needle is on the pivot and will orient itself in the magnetic meridian. Therefore the north and south ends of the ring will be in this direction.
- The line of sight is defined by the objective vane and the eye slit, both attached to the compass box.

There are two systems commonly used to express the bearing.

WHOLE CIRCLE BEARING:
 In this system the bearing of a line measured with the magnetic north in clockwise direction. The value of bearing thus varies from 0° to 360°.

QUADRANTAL SYSTEM:
 In this system the bearing of a line is measured E or W from N or S whichever is near. The directions can be either clock wise or anti clockwise depending upon the position of the line.


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Technological impact on Business environment

Flow of presentation

- Introduction Of technology impact on business environment.
- Technology
- Types of technology
- Business and technology
- Conclusion

INTRODUCTION

- Technological Environment means the development in the field of technology which affects business by new inventions of production and other improvements in techniques to perform the business work.
- Technology environment consists of external factors in technology that impact business operations.
- Examples of Technological changes are seen in Aviation, Electronics, Energy, communication, consumer goods industry, Optics, Medicines and Manufacturing.

Technology

- Technology is about Application of tools, methods and techniques to improve production and processes.
- Technology involves the purposeful Application of knowledge, Experience and Resources to create Processes and products that need human needs.
- The intensity and Type of technology use varies depending on the type of Economic Activities an enterprise is involved in.



Levels of technology

- Manual technology:-
 1. Human based simple and traditional technology.
 2. Low cost.
 3. Suitable for low volume production.
- Mechanized technology:-
 1. Machine based technology.
 2. Suitable for large volume production, efficient.
 3. Involves high maintenance cost.

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