**TUTORIAL SHEET**

**Year: B. Tech. I Year I Semester**

**Subject: Basic Civil Engineering**

**CO1. Comparing various surveying methods and understanding its principles along with the latest technological advancements in surveying**

**TUTORIAL SHEET NO.1**

1. Convert the following whole circle bearing of limes into a reduced bearing system.
2. 35°
3. 115°
4. 210°
5. 315°
6. Explain the height of the instrument and magnetic declination

**TUTORIAL SHEET NO.2**

1. Discuss scope of civil engineering and give any two objects of civil engineering.
2. Write difference between site engineer and design engineer?

**TUTORIAL SHEET NO.3**

1. What is surveying? Explain its principle and objective.
2. The following readings were observed with a 4 m leveling staff & a dumpy level. Calculate the reduced level by HI method .Also apply arithmetical check. The readings given in table as:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Station | B.S. | I.S. | F.S | H.I | R.L | Remarks |
| A | 3.25 |  |  |  | 210.00 | B.M. |
| B |  | 3.15 |  |  |  |  |
| C |  | 3.25 |  |  |  |  |
| D |  | 2.95 |  |  |  |  |
| E |  |  | 2.85 |  |  |  |

**TUTORIAL SHEET NO.4**

1. Explain Types of tape used in linear measurements with their specifications
2. What do you understand by local attraction and how it will affect fore bearing and back bearing?

**TUTORIAL SHEET NO.5**

1. What do you understand by linear measurement?
2. Explain relation between WCB and QB System.

**TUTORIAL SHEET NO.6**

1. Write down the difference between prismatic compass and surveyors compass.
2. Explain types of chain used in linear measurements with their specifications

**CO2. Understand building construction technology and identify construction materials along with sustainable construction technology with focus on Green buildings**

**TUTORIAL SHEET NO.1**

Q1**What should be the planning for proper sunlight and ventilation in a building.**

Q.2 Write basic requirements for selection of a building construction site.

**TUTORIAL SHEET NO.2**

Q.3 Differentiate between plinth area and carpet area.

Q.4 Define base line and center line

**TUTORIAL SHEET NO.3**

Q.5 What do you mean by layout of building plans ?

**Q**.6 Explain Building bye laws .

**TUTORIAL SHEET NO.4**

Q.7 What are the requirements of residential buildings ?

Q.8 Define sustainable development .

**TUTORIAL SHEET NO.5**

Q.9 What do you mean by green building ?

Q.10 Explain floor space index with formula.

**TUTORIAL SHEET NO.6**

Q.11 Define foundation in a building .

Q.12 Calculate the total covers area if Floor space index is 2 and plot area 600 m square .

**CO3 Understand about traffic, road safety and various types of roads and railway systems along with road and vehicular characteristics required at obtaining a consistent and efficient traffic system.**

**TUTORIAL SHEET NO.1**

Q.1 Write a short note on

1. Road safety measure
   1. Causes of accidents

Q.2 What are the different modes of transportation? Explain in brief?

**TUTORIAL SHEET NO.2**

Q.3 Give the classification of roadways

Q.4 Explain the various road traffic signs.

**TUTORIAL SHEET NO.3**

Q.5 What do you mean by regulatory signs .Name any four regulatory signs used in signals.

Q.6 Describe the characteristics of rail transport

**TUTORIAL SHEET NO.4**

Q.7 What are the benefits of transportation by road .

Q.8 What is the function of transportation ?

**TUTORIAL SHEET NO.5**

Q.9 Give any two regulatory signs

Q.10 Write down the names of traffic signs with two examples each .

**TUTORIAL SHEET NO.6**

Q.11 What are the benefits of transportation by airways ?

Q.12What are the measures to avoid accidents

**CO4 Recognize various types of pollution and associated risks and identify their control measures; also understand municipal waste treatment methods and outline emerging and efficient technologies of solid waste management.**

**TUTORIAL SHEET NO.1**

Q.1 What do you mean by ecosystem .Explain it

Q.2 Explain WasteWater Treatment.

**TUTORIAL SHEET NO.2**

Q.3 Explain different types of pollution.

Q.4 Describe reuse and saving of water.

**TUTORIAL SHEET NO.3**

Q.5 Explain rain water harvesting with a neat sketch.

Q.6 Explain Hydrological cycle with a neat sketch.

**TUTORIAL SHEET NO.4**

Q.7 Define

1. Biodiversity
2. Global Warming
3. GreenHouse Effect

Q.8 Explain secondary treatment of waste water

**TUTORIAL SHEET NO.5**

Q.9 What do you mean by self cleansing velocity of water

Q.10 Define activated sludge .

**TUTORIAL SHEET NO.6**

Q.11 Explain tertiary treatment of wastewater .

Q.12 What are the methods for treating hard water .