

# 1. Introduction and Scope of Civil Engineering.

## 1 Discuss the scope of civil Engineering.

=> Civil Engineering is a broad branch of engineering. It includes the study of the concept of design, constructs and maintain infrastructure of system.

-> This are the main scope of civil Engineering

1 The Building, Planning and Construction: In this scope, there are taught the methods of constructional projects.

Construction of a building such as residential schools, colleges, hospitals etc.

2 Advanced Construction: This involves advance planning and techniques for the design and construction of bigger projects like bridges, tunnels, dams etc.

3 Structural Engineering: Structural Engineer require for structural analysis and designing of slabs, columns, beams etc. for constructional calculations.

4 Town Planning: Town planning is a concept of dividing a town into different land use zones such as residential, commercial etc.

5 Geotechnical Engineering: It is the field deals with the collection and testing of soil samples.

It design and construct well foundations, pile foundations and earth-related constructions.

6 Water Resources Engineering: It includes designing hydraulic structures like canals, barrages, dams etc.

It also includes water harvesting techniques, soil conservation etc.

7 Environmental Engineering: Environmental Engineering due to increased human activities, it is very important to safe-  
the natural world.

This field deals with public health and pollution control, construction to system management.

2 Write a note on role of civil engineer.

=> Civil Engineering is a wide field. This is main role of civil Engineer.

1. The main role of civil Engineer is a surveying, planning, designing and create a different types of structures.

2. Civil Engineer responsible to make all the types of structures like building, roads, bridges, railway etc.

3. Civil Engineer use a scientific principles to construct a building and different types of structures.

4. Civil Engineer solve different types of engineering problem to make structures.

5. Civil Engineer is use different types of management techniques for better management.

6. Civil Engineer carry out soil investigation for the design of foundations of structures.

7. Civil Engineer manage the man, material, machine and money.

8. Civil Engineer carry out the design of buliding is safe, durable and economic.
9. It is invites the different tenders and select the contractor for the work.
10. Civil Engineer carry out the quantity of survey and to prepre probable cost for the costruction.
11. Civil Engineer solve management problems using operation research techniques.
12. Civil Engineer carry out the valuation of land and finding to its sale or purches.
13. Civil Engineer carry out the design of structures as per the principles of structures design.
14. Civil Engineer construct different types of construction like Educational buliding, Commercial buliding, water resoures etc.

So, Civil Engineer play important role in our society.

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3 Explain in brief different Branches of civil engineering.

=> Civil Engineering is a wide field. In this engineering three there are many branches.

Civil Engineering has Nine types of branches.

1 Surveying and Levelling:

In Surveying includes measurements of distances and angle in horizontal and vertical plain

Levelling includes measurements of heights in vertical plain.

The main aim of surveying is make a map of the ~~st~~ area using some scale.

2 Building, Planning and Construction:

Building planning required basic fundamental principles of structure.

The main component of building is Foundation.

Building construction may be residential building, educational building, commercial building, water resources etc.

### 3 Advanced Construction:

In the Advanced construction use different types of techniques.

Dams, bridges, tunnels, ports this are the Advanced construction.

In this construction, under water structure requies special types of equipments.

### 4 Structural Engineering:

This is very important branch of civil Engineering.

This brach deal with the structural analysis and design of structure.

In this engineering designed the beams, columns, slabs etc.

### 5 Geotechnical Engineering:

This engineering is deal with soil investigation and design of proper foundation of structure.

This engineering main work is do proper foundation of structure according to soil strength.

Soil Investigation includes collection and testing soil's samples.

#### 6 Water Resources Engineering:

This engineering mainly deal with all the types of water resources like dams, canals etc.

This engineering design the structure of hydraulic structures.

This engineering includes study of water resources, study of rainfall, runoff etc.

#### 7 Transportation Engineering:

This engineering deals with planning, designing and construction of roads, bridges, railways, tunnels etc.

Large scale of transportation of goods is done by railways.

For the development of good structures, good transportation is require.

#### 8 Environmental Engineering:

This engineering deals with different types of pollutions like water, air, noise etc.

This engineering also deal with pollution control and public health

It is also includes solid waste management in towns and cities.

### 9. Town Planning:

Town planning engineer planed and controlled growth of town by dividing land of town.

Town planning land divided in to residential, commercial, recreational land.

~~Two~~ Town planning engineer also divided the land of green garden to create better environment.

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4 Discuss the impact of infrastructural development on the economy of a country.

=> Infrastructural is a the backbone of nation's progress.

Infrastructural is a main engine of build economy of a country.

Well development infrastructural facilities are the key to develop any nation.

Indian constructions industry employes are more than 3.3 croes people.

Contrubisation of construction industry about 6.5 % of Gross Domestic Product.

More than half of the bajet spend on the constructions industry.

Indian Government spend in construction industry at 2006-7 to 2871120 crore.  
at 2007-8 to 7.6 % of bajet.

In Frastructural facilities mainly transport, power, communication, water resoures can grow easily.

It is also grow science and technology and create better environment of nation

Infrastructure sector also covers by rant of servies such as transportations which includes road, railway, air ports, shipping etc

Hence, Infrastructure development is a backbone of nation building and economic development process.

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