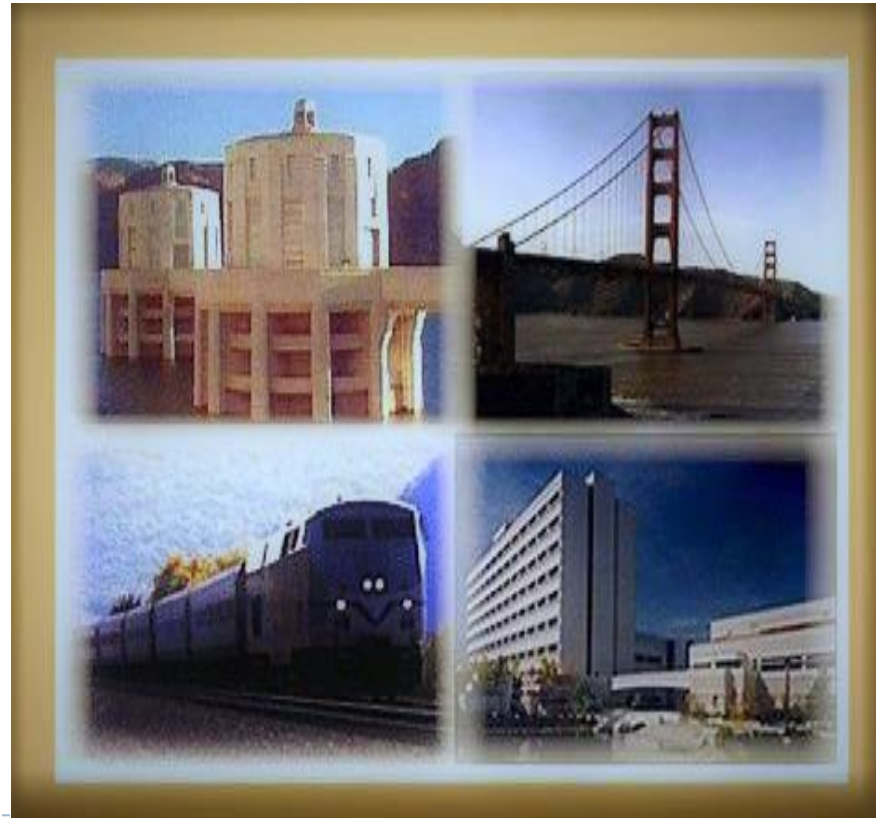


# SCOPE & CAREERS IN CIVIL ENGINEERING...



# WHAT IS CIVIL ENGINEERING?

- Civil Engineering is broad field of engineering, which deals with the planning, construction and maintenance of structures or public works such as buildings, roads, stadiums, dams etc .

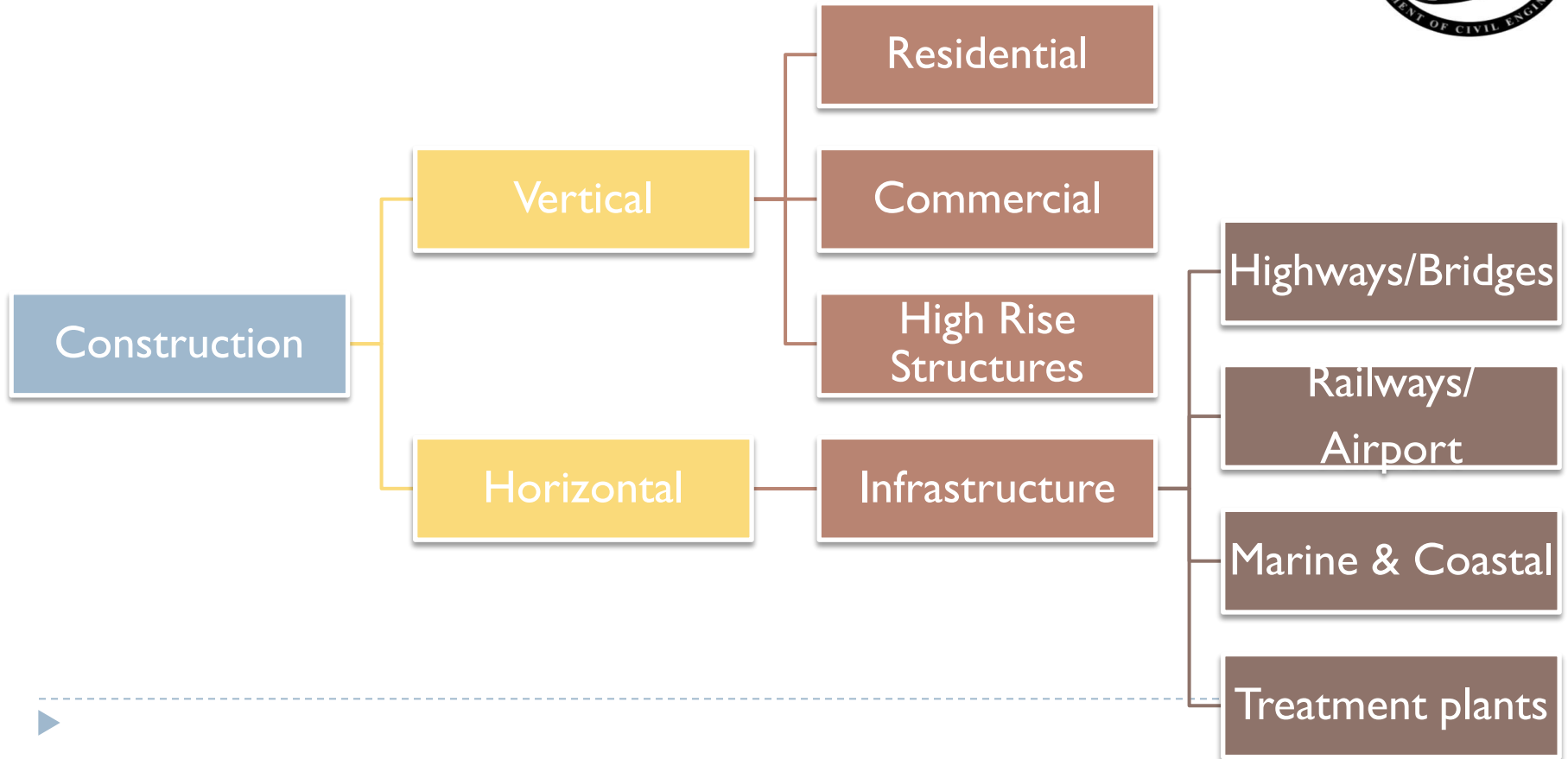


# ESSENTIAL SKILLS FOR A CAREER IN CIVIL ENGINEERING

- ✓ Technical Training
- ✓ Communication Skills - Written and Oral (For Managerial posts)
- ✓ Leadership
- ✓ Organizational Skills
- ✓ Problem Solving Skills
- ✓ Decision Making
- ✓ Critical Thinking



# CIVIL CONSTRUCTION INDUSTRY



# TOP COMPANIES HIRING CIVIL ENGINEERS



- ▶ J Kumar Infrastructure
- ▶ Biltrax Construction Ltd .
- ▶ Puranicks Group
- ▶ S.N.Bobe and Consultants
- ▶ Jaypee Group
- ▶ Gammon India Ltd.
- ▶ Balaji Railroad Systems Ltd.
- ▶ Punj Lloyd Group
- ▶ Jaiprakash Associates
- ▶ Nagarjuna Construction Co.
- ▶ GMR Group
- ▶ Hindustan Construction Co.
- ▶ Expert Technology
- ▶ Hiranandani Construction
- ▶ Godrej Properties
- ▶ Ashar Group

- ▶ Oberoi Realities
- ▶ DLF IVRCL
- ▶ Dr. Kelkar Consultants
- ▶ Larsen & Toubro
- ▶ Nircon Engineering Co.
- ▶ RDS Projects Ltd.
- ▶ Simples Projects Ltd.
- ▶ Vadakar and Associates.
- ▶ Sheladiya Construction Co.
- ▶ TCS Deutsche bank,
- ▶ Voltas International Ltd.,
- ▶ Hindustan Construction Company
- ▶ Wipro,
- ▶ B.G. Shirke
- ▶ Tata Realty & Housing ,
- ▶ Prestige Estates
- ▶ Lodha Group
- ▶ Billimoria

# BASIC REQUIREMENTS /ELIGIBILITY FOR PLACEMENT



## Criteria

- Department Initiatives

Aggregate First class Score  
with no live KT

- Department Focusses on best teaching methodologies

Technical Knowledge

- Emphases on theoretical and Practical concept with the help of state of art facilities

Problem solving Approach

- Expert sessions /Mini Projects /Projects

Critical Thinking

- Mini Projects /Projects/Technical quiz /Competitions

Organizational Skills

- Various department activities

Communication Skills

- Apptitude Training provided through experienced faculty

Leadership skills

- Various Institute & Department level activities

# Companies visited for placement



# CAREER OPPORTUNITIES



1

Higher Studies(Masters in Technology /Research OR Management)

2

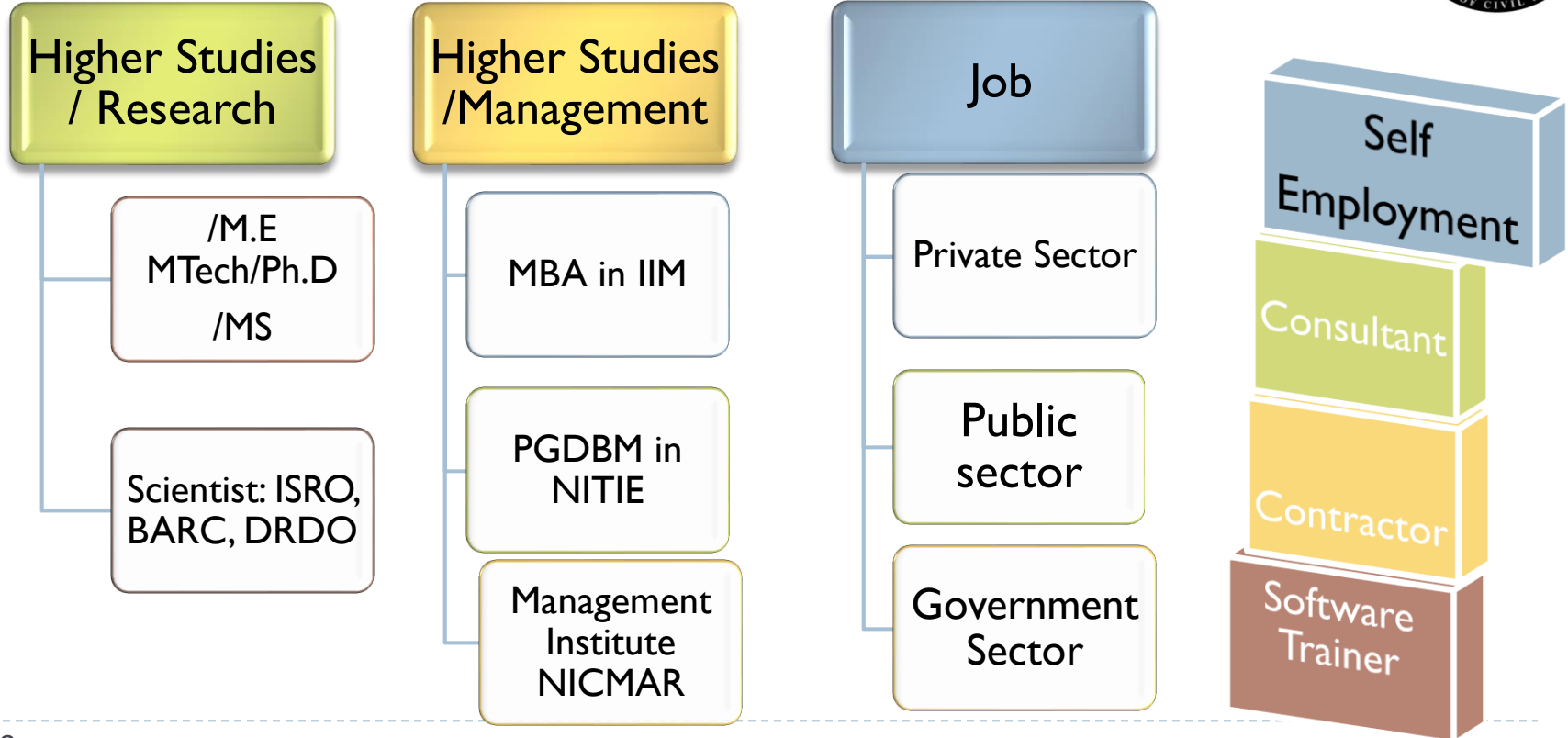
Job

3

Business/Entrepreneur/Self Employment



# CAREER OPTIONS FOR CIVIL ENGINEER



## 1.1) PREPARATION FOR HIGHER STUDIES- RESEARCH/MANAGEMENT



Select Subject for specialization

Subject selection may depend on area of interest or scope of subject.

Select electives related to selected subject in SEM V,VI,VII,VIII (Department and Institute Level)

Along with prepare for exams related to type of study

## 1.2) CAREER OPTIONS : STUDY ABROAD



Master of Science (MS) in various disciplines of Civil Engineering. Training is provided by various private coaching institutes.



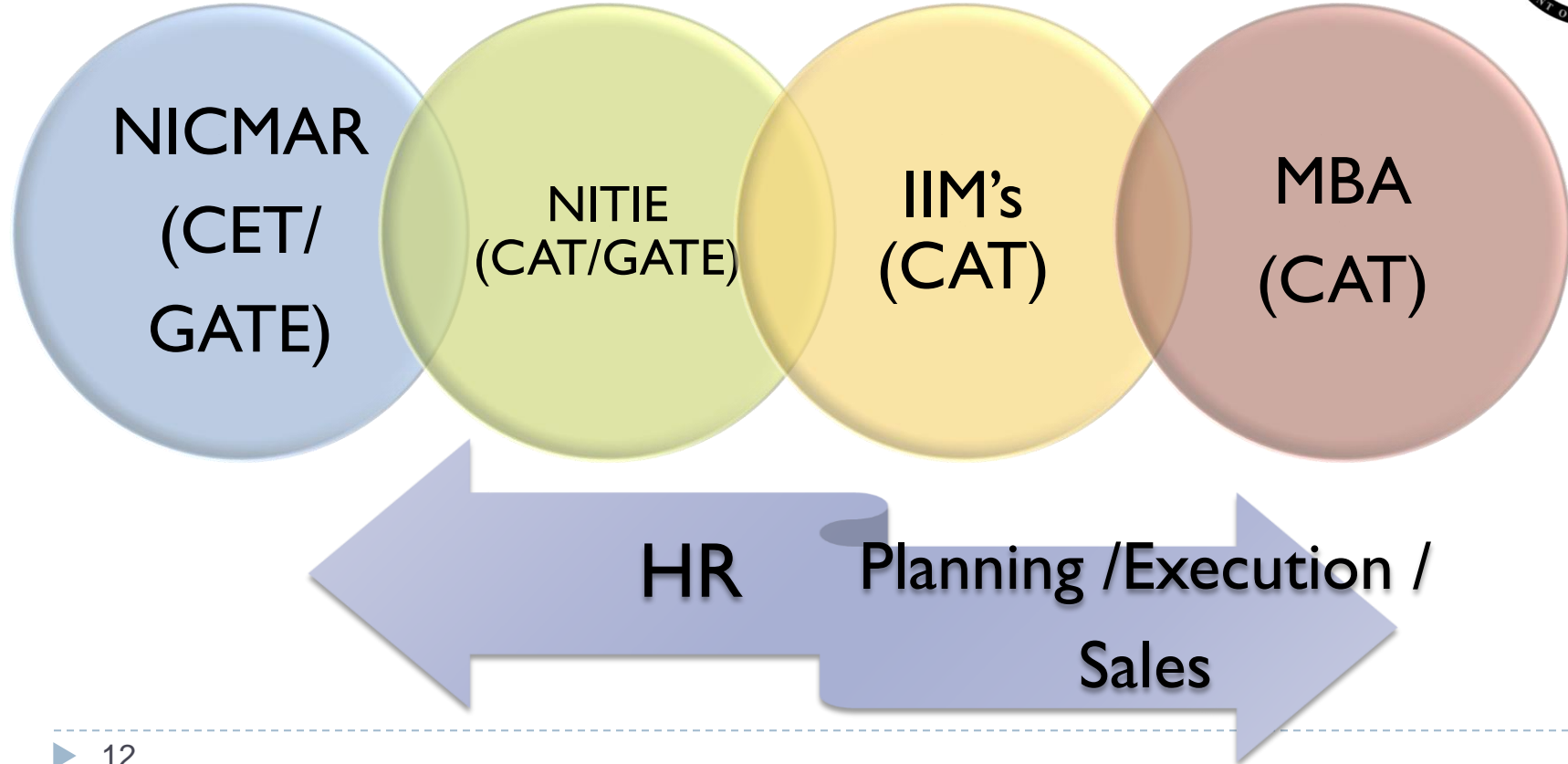
### I) Written Exam:

- GRE
- English Proficiency Test TOEFL

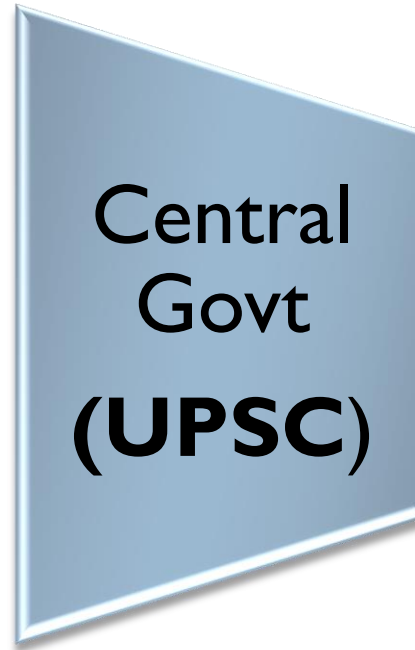
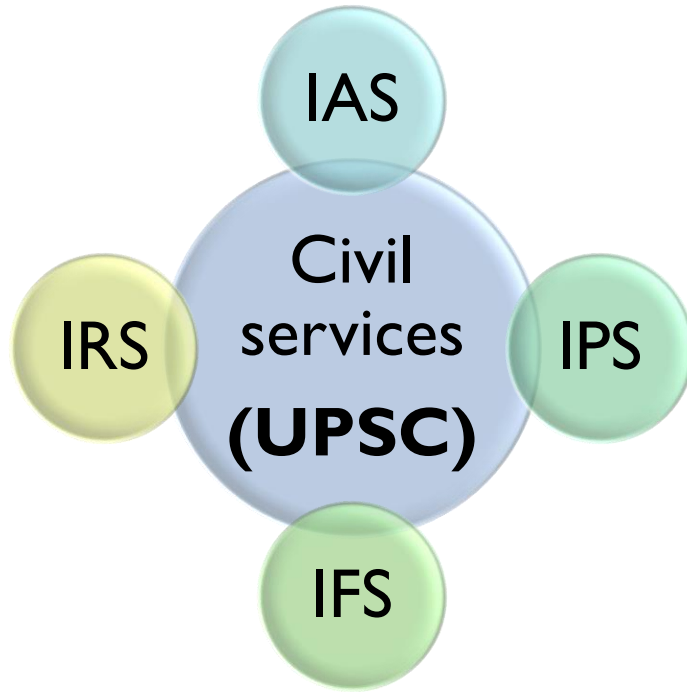


### II) Statement of Purpose & Counselling

## 1.3) CAREER OPTIONS: MANAGEMENT



## 1.4) CAREER OPTIONS: GOVERNMENT JOBS



Non-Engineering

Engineering

## 2.0) CAREER OPTIONS: GOVERNMENT JOBS



### Engineering

#### Central Govt (UPSC)

- IES
- CPWD
- Railways
- Water Resource
- Military
- MoEF
- CPWRS

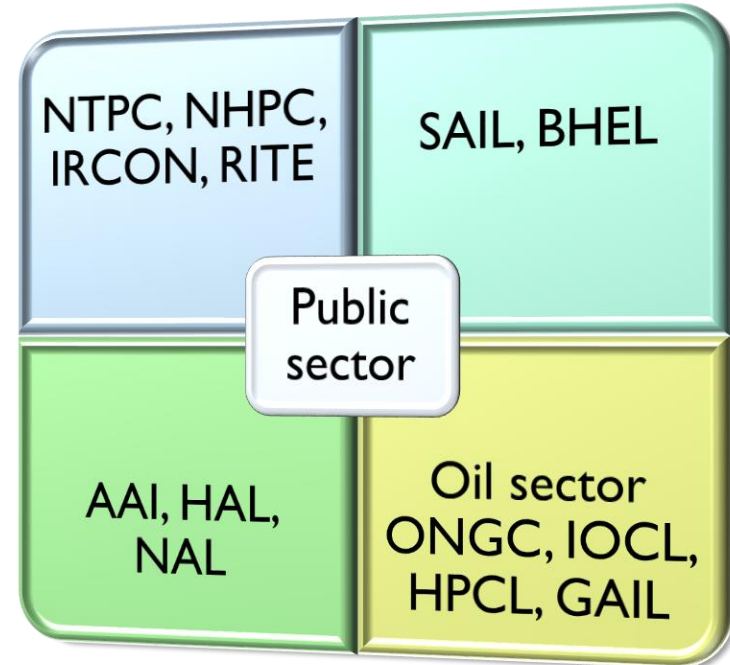
#### State Govt (MPSC)

- MESE
- PWD
- Irrigation Dept.
- Maharashtra Jeevan Pradhikaran
- MMRDA,
- CIDCO
- Municipal Corporations
- Town Planning
- GSDA
- ZP

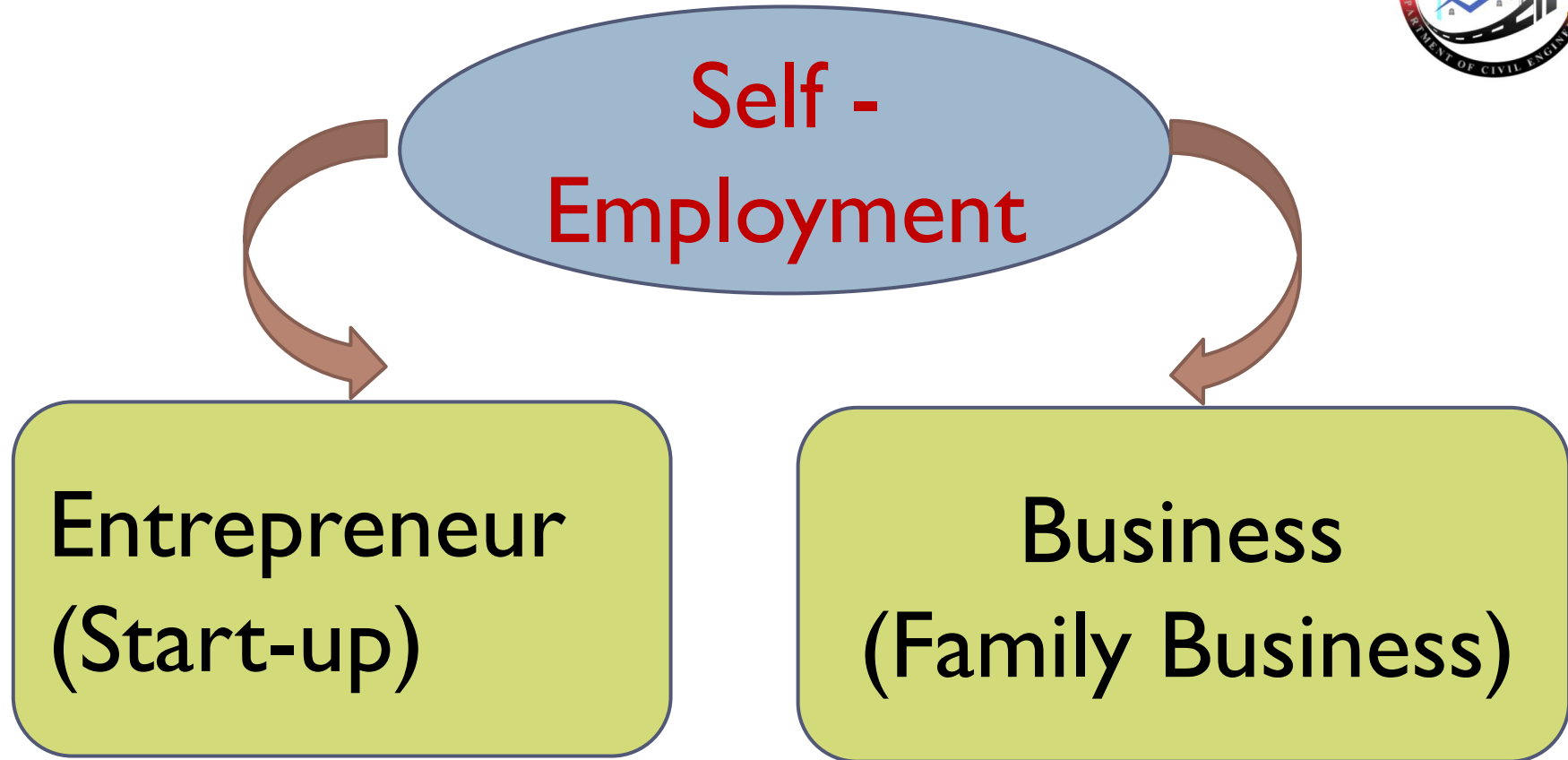
#### Scientist/ Project

- ISRO,
- BARC,
- DRDO,
- DST,
- NEERI
- World Bank
- Disaster Management
- Climate Change

## 2.1) CAREER OPTIONS: FIELD JOBS

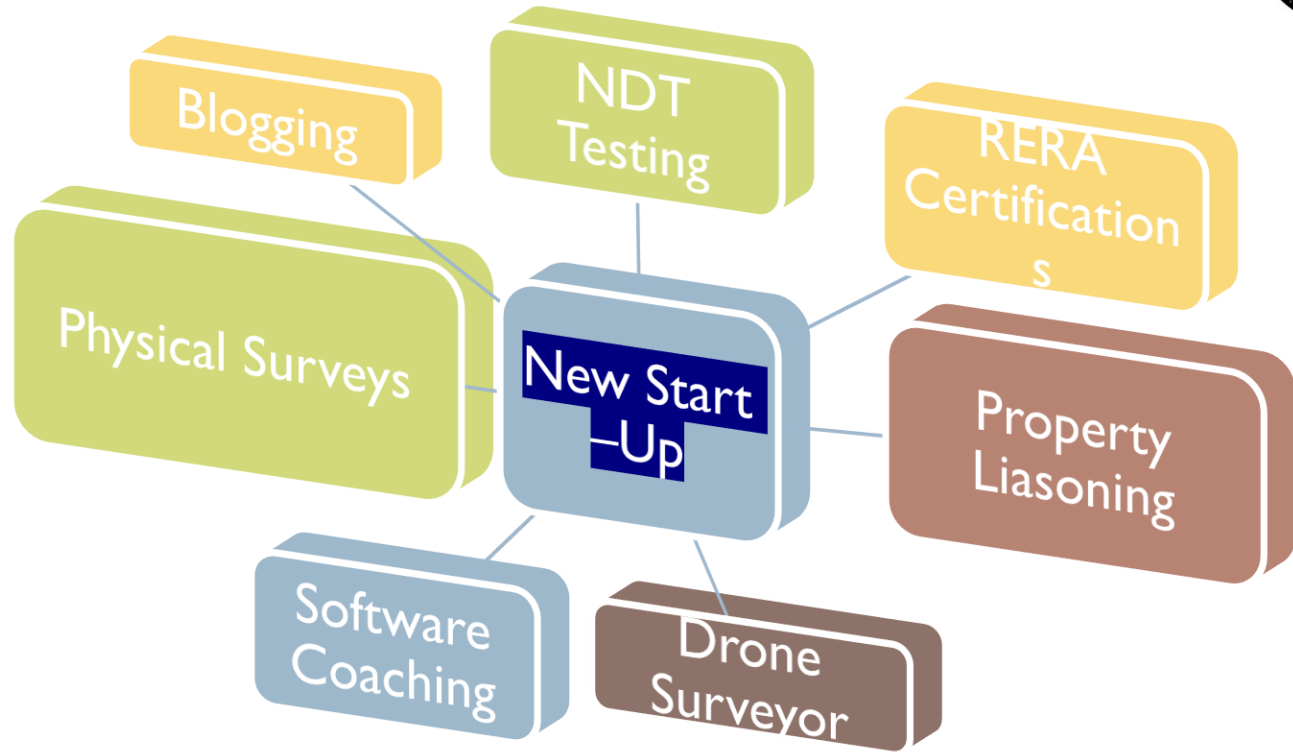


### 3.0) CAREER OPTIONS: BUSINESS/SELF EMPLOYMENT

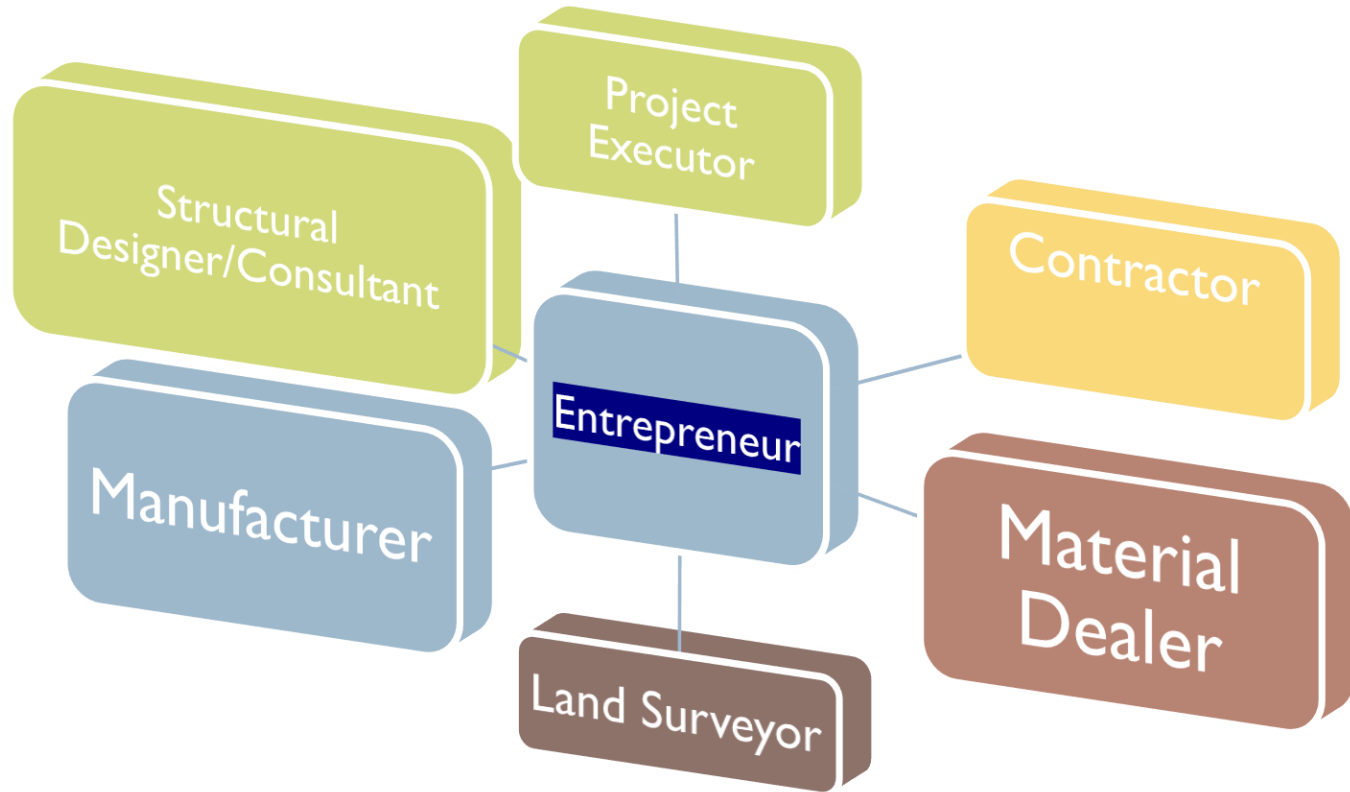




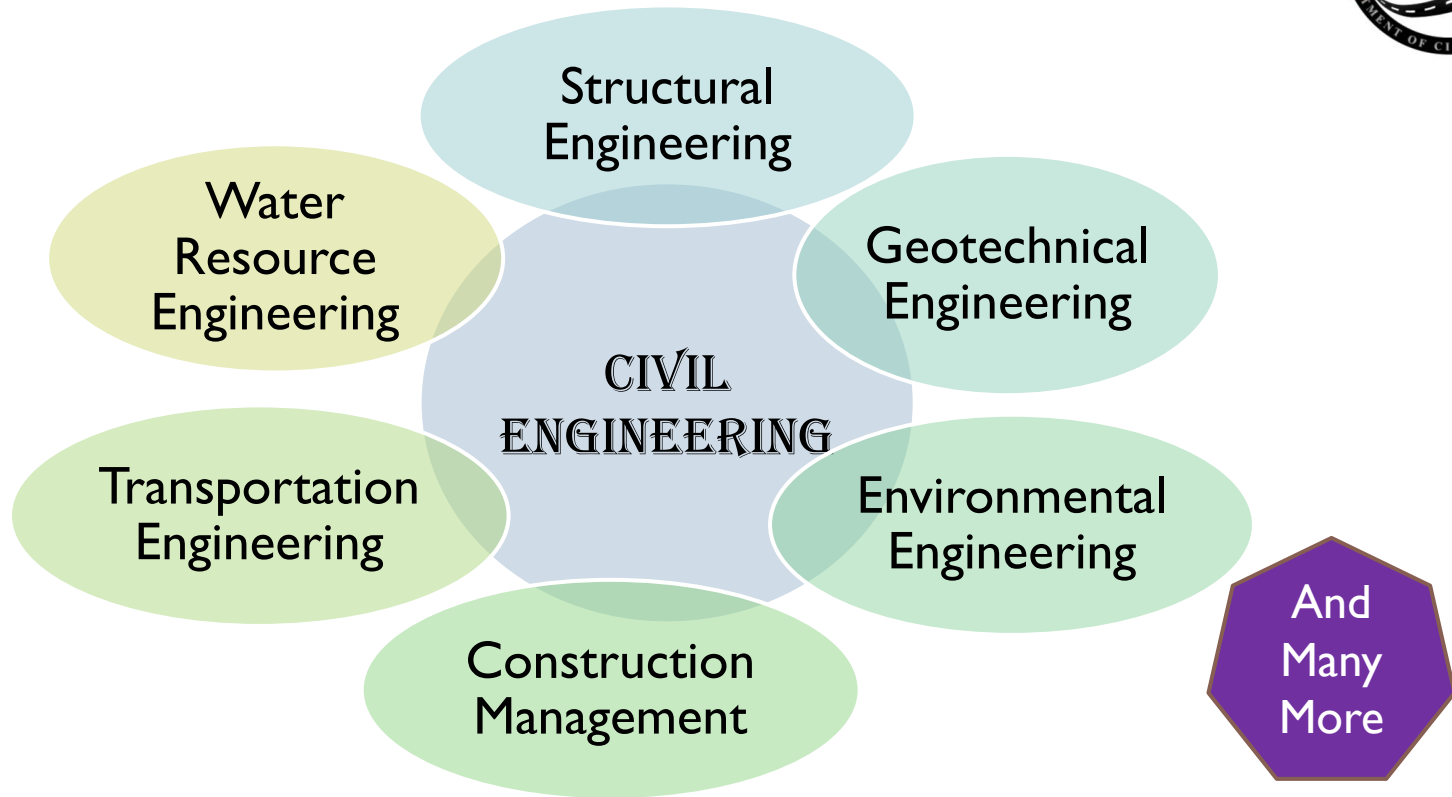
## 3.1.A) CAREER OPTIONS: BUSINESS/SELF EMPLOYMENT



## 3.1.B) CAREER OPTIONS: BUSINESS/SELF EMPLOYMENT



# SPECIALIZATIONS IN CE-CORE SUBJECTS



# STRUCTURAL ENGINEERING-CAREER



## ▶ **Government Services:**

- Civil services (PWD), Armed forces, Indian Railways, Oil companies,
- College/University Instructor
- CIDCO, MMRDA, BMC, TMC, PMC, NHAI etc

## ▶ **Private Services:**

- Private Practice/Firm (Structural Engineering consultancies)

## ▶ **Business/Entrepreneurship:**

- State and Central Government (Licensed Structural Consultant)

## ▪ **Self employment**

- Consultancy, Designing, Construction, Structural auditor, Retrofitting Consultant, Contractor, Software Trainer



## ► **Subjects associated in the curriculum**

### ► **Core Subjects**

- ❑ Building Materials and Construction Technology ,Mechanics of structures ,Structural Analysis , Design of Steel Structures , Theory of Reinforced Concrete Structures ,Design of Reinforced Concrete Structures,

### ► **Department level optional Courses:**

- ❑ Rock Mechanics, Advanced Structure Analysis, Structural Dynamics, Advanced Structural Mechanics, Prestressed Concrete Structures, Advanced Design of Steel Structures, Building services and Repairs, Smart Materials , Sustainable Building Materials , Computational Structural Analysis, Bridge Engineering , Repairs, Rehabilitation and Retrofitting of structures

# STRUCTURAL CONSULTANT LICENSE



The municipal office of your area will provide this .

Fill the form of structural engineer. And submit all the necessary document which will be mention in the form.

## Criteria/Qualification

1. Generally you should have 5 year work experience in any structural consultancy in India. (\* 3 years in case of (Experience is first criteria)
2. You should have enough qualification (degree or master degree)
3. There will be some processing fees.(it is less then 10000/-)
4. After checking your all the document. They will issue the licence.

# GEOTECHNICAL ENGINEERING-CAREER



## ▶ **Government Services:**

- Civil services (PWD), Municipal Corporations, Urban Planning Departments, Government Port Trusts, ONGC, NHAI, Indian Railways, Metro Rail Corporations, CIDCO, MMRDA, BMC, TMC, PMC, NHAI, RBI, etc.

## ▶ **Private Services:**

- Construction firms, Consultancies, Infrastructure development firms,
- Mining firms, Offshore consultancies

## ▶ **Business/Entrepreneurship:**

- Self employment :Consultancy

# GEOTECHNICAL ENGINEERING-SUBJECTS



## ► **Subjects associated in the curriculum**

### ► **Core Subjects**

- Engineering Geology & Geotechnical Engineering.

### ► **Department level optional Courses:**

- Introduction to Offshore Engineering, Analysis of Offshore Structures, Foundation Analysis and Design, Soil Dynamics, Ground Water Engineering, Ground improvement techniques.



# GEOTECHNICAL CONSULTANT LICENSE



- The municipal office of your area will provide this .
- Fill the form of structural engineer. And submit all the necessary document which will be mention in the form.
  - Criteria/Qualification
    1. Generally you should have 5 year work experience in any Geotech consultancy in India.(Experience is first criteria)
    2. You should have enough qualification (degree or master degree)
    3. There will be some processing fees.(it is less then 10000/-)
    - 4.After checking your all the document.They will issue the licence.

# ENVIRONMENTAL ENGINEERING



## ▶ **Government Services:**

- Irrigation Department ,Public Works Department (PWD),Water treatment and sewage treatment,Water supply Department , Environmental analysts, Pollution control boards,
- CIDCO, MMRDA,BMC,TMC,PMC, NHAI etc
- College/University Instructor.

## ▶ **Private Services:**

- Consultant, Design Engineer ,Environmental Engg technician, Environmental scientists and specialists, Natural sciences manager, Pollution control. Environmental auditor, EIA expert

## ▶ **Business/Entrepreneurship:**

- Self employment

### **Consultancy:**

- Environmental auditor
- Water and wastewater analysis ,Waste management and recycling,Design of treatment plants

# ENVIRONMENTAL ENGINEERING-SUBJECTS



## ► **Subjects associated in the curriculum**

### ► **Core Subjects**

- Environmental Engineering.

### ► **Department level optional Courses:**

- Industrial Waste Treatment ,Solid waste Management ,Air and Noise Pollution & Control, Biological Processes & Contaminant Removal, Solid hazardous waste management , Environmental impact assessment, Physio-Chemical Properties of Waste And Sewage Water

### ► **Institute level optional Courses:**

- Environmental Management

# TRANSPORTATION ENGINEERING



## ▶ **Government Services:**

- Civil services (PWD), National Highway Authority of India (NHAI), Airport Authority of India (AAI), Indian Railways, CIDCO, MMRDA, BMC, TMC, PMC, NHAI.

## ▶ **Private Services:**

- Private firms for designing , planning and material testing.

## ▶ **Business/Entrepreneurship:**

- Self employment :Consultancy,Auditing, Contracts



## ► **Subjects associated in the curriculum**

### ➤ **Core Subjects**

- Transportation Engineering

### ► **Department level optional Courses:**

- Transportation Planning & Economics, Pavement Materials Construction and Maintenance, Pavement Design and Construction, Traffic Engineering and Management

# WATER RESOURCES ENGINEERING



## ▶ **Government Services:**

- Hydrological modelling, Water Distribution Department & Conservation Planning, Drainage, Irrigation Expert, Water Treatment And Sewage Treatment, Water Supply, Hydraulic, Municipal Corporations, Watershed planning and management, CIDCO, MMRDA, BMC, TMC, PMC, NHAI.

## ▶ **Private Services:**

- Hydrologists, Natural sciences managers, Private Practice/Firm(Engineering consultancies)

## ▶ **Business/Entrepreneurship:**

- Self employment :Consultancy



## ► **Subjects associated in the curriculum**

### ► **Core Subjects**

- Fluid Mechanics ,Applied Hydraulics,Water Resources Engineering .

### ► **Department level optional Courses:**

- Applied Hydrology Flood Control, Design of Hydraulic Structures , Open Channel Flow

# CONSTRUCTION MANAGEMENT



## ▶ **Government Services:**

- (Recruitment through CET/UPSC/IBPS)
- CIDCO, MMRDA, BMC, TMC, PMC, NHAI, RBI, etc.

## ▶ **Private Services:**

- ▶ Private Practice/Firm (Engineering consultancies)

## ▶ **Business/Entrepreneurship:**

- Project Management Consultancy
- Contractor, Manufacturer, Material Supplier,
- Drone Surveyor, Land Surveyor
- Property Liasoner
- Certified Valuer,
- Quantity Surveyor







# CONSTRUCTION MANAGEMENT-SUBJECTS

## ► **Subjects associated in the curriculum**

### ➤ **Core Subjects**

- Quantity Survey, Estimation and Valuation, Construction Management,

### ➤ **Department level optional Courses:**

- Modern Surveying Instruments and Techniques, Construction Equipment & Techniques, Urban Infrastructure Planning, Appraisal and Implementation of Infra Projects, Legal Aspects in constructions, Construction Safety.

### ➤ **Institute level optional Courses:**

- Project Management

# REMEMBER



- ❖ Broad vision
- ❖ Research Oriented.
- ❖ Positive attitude.
- ❖ Appreciate others.
- ❖ Be inspired from others.
- ❖ Interact with others.
- ❖ Define goals and achieve them.