



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

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Date: 15/09/2021

## Notice: Academic Calendar 2021-2022

RAJASTHAN TECHNICAL UNIVERSITY KOTA				
Academic Calendar for Odd Semester for Session 2021-22				
Course: Bachelor of Technology (B.TECH.)				
Semester	I	III	V	VII
Induction Program	*			
Commencement of Classes	*	20.09.2021	20.09.2021	01.09.2021
Commencement of First Mid Term	*	28.10.2021	25.10.2021	04.10.2021
Commencement of Second Mid Term	*	08.12.2021	29.11.2021	15.11.2021
Last Working Day	*	15.01.2022	24.12.2021	15.12.2021
Commencement of Practical Exams	*	17.01.2022	20.01.2022	16.12.2021
Commencement of Theory Exams	*	27.01.2022	05.01.2022	06.01.2022
Winter Break		Not Applicable		
Commencement of Classes for Even Semesters (2020-21)	II	IV	VI	VIII
	*	10.02.2022	27.01.2022	10.01.2022

Academic Calendar Odd Semester 2021-22				
Particulars	B. Tech- I	B. Tech- III	B. Tech- V	B. Tech- VII
Commencement of classes	*	20-09-2021	20-09-2021	01-09-2021
Last Working Day	*	15-01-2022	24-12-2021	15-12-2021
Course Progression Report-I	*	20-10-2021	20-10-2021	20-10-2021
First Mid Term Exam	*	28-10-2021	25-10-2021	25-10-2021
Remedial Class-I	*	08-11-2021	08-11-2021	08-11-2021
Course Progression Report-II	*	04-12-2021	20-11-2021	20-11-2021
Second Mid Term Exam	*	08-12-2021	29-11-2021	22-11-2021
Remedial Class-II	*	16-12-2021	09-12-2021	09-12-2021
Commencement of Theory Exam	*	27-01-2022	05-01-2022	06-01-2022
Commencement of Practical Exam	*	17-01-2022	20-01-2022	16-12-2021

For Techno India NJR Institute of Technology  
पंकज कुमार पोरवाल  
Dr. Pankaj Kumar Porwal  
(Principal)

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# Techno India NJR Institute of Technology



## Course File

BASIC CIVIL ENGINEERING (1FY3-09 )

Rakesh Yadav  
Department of Civil Engineering

For Techno India NJR Institute of Technology  
पंकज पोखराल  
Dr. Pankaj Kumar Porwal  
(Principal)



# RAJASTHAN TECHNICAL UNIVERSITY, KOTA

## I & II Semester

### Common to all branches of UG Engineering & Technology

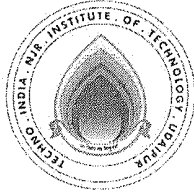
#### 1FY3-09/ 2FY3-09: Basic Civil Engineering

SN	CONTENTS
1	<b>Introduction to objective, scope and outcome the subject</b>
2	<b>Introduction:</b> Scope and Specialization of Civil Engineering, Role of civil Engineer in Society, Impact of infrastructural development on economy of country.
3	<b>Surveying:</b> Object, Principles & Types of Surveying; Site Plans, Plans & Maps; Scales & Unit of different Measurements. Linear Measurements: Instruments used. Linear Measurement by Tape, Ranging out Survey Lines and overcoming Obstructions; Measurements on sloping ground; Tape corrections, conventional symbols. Angular Measurements: Instruments used; Introduction to Compass Surveying, Bearings and Longitude & Latitude of a Line, Introduction to total station. Levelling: Instrument used, Object of levelling, Methods of levelling in brief, Contour maps.
4	<b>Buildings:</b> Selection of site for Buildings, Layout of Building Plan, Types of buildings, Plinth area, carpet area, floor space index, Introduction to building byelaws, concept of sun light and ventilation. Components of Buildings & their functions, Basic concept of R.C.C., Introduction to types of foundation.
5	<b>Transportation:</b> Introduction to Transportation Engineering; Traffic and Road Safety: Types and Characteristics of Various Modes of Transportation; Various Road Traffic Signs, Causes of Accidents and Road Safety Measures.
6	<b>Environmental Engineering:</b> Environmental Pollution, Environmental Acts and Regulations, Functional Concepts of Ecology, Basics of Species, Biodiversity, Ecosystem, Hydrological Cycle; Chemical Cycles: Carbon, Nitrogen & Phosphorus; Energy Flow in Ecosystems. Water Pollution: Water Quality standards, Introduction to Treatment & Disposal of Waste Water. Reuse and Saving of Water, Rain Water Harvesting. Solid Waste Management: Classification of Solid Waste, Collection, Transportation and Disposal of Solid. Recycling of Solid Waste: Energy Recovery, Sanitary Land fill, On-Site Sanitation.



## RAJASTHAN TECHNICAL UNIVERSITY, KOTA

	Air& Noise Pollution: Primary and Secondary air pollutants, Harmful effects of Air Pollution, Control of Air Pollution. Noise Pollution, Harmful Effects of noise pollution, control of noise pollution, Global warming& Climate Change, Ozone depletion, Green House effect
<b>TOTAL</b>	



**TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY UDAIPUR**

**Civil Engineering**

**B. TECH I- YEAR (I/II SEM)**

**COURSE PLAN**

**SUBJECT - 1FY3-09 BASIC CIVIL ENGINEERING**

The course has certain outcomes by virtue of which the students will get an idea of the subject Basic Civil Engineering.

The Course Outcomes (COs) are as follows:

**Analysis of CO I -**

*CO1. Students will be able to describe and write the Role of civil engineer and impact of infrastructure on society.*

Bloom's Level	Mapping with respect to CO1
Create	To develop a relationship between civil engineering branch to other branches.
Evaluate	To plan the execution of a construction work.
Analyze	To relate the reflexes needed for being a civil engineering in comparison to other engineering branches.
Apply	To solve the problems related site work.
Understand	To summarize how infrastructure effects a country's economy.
Remember	Defining the roles of an engineers for execution of any project efficiently.

Lecture Sl. No.	Topic	Unit based mapping
1	INTRODUCTION: to objective, scope and outcome the subject	1
2	Scope and Specialization of Civil Engineering, Role of civil Engineer in Society	1
3	Impact of infrastructural development on economy of country.	1

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### Analysis of CO 2 –

CO2. Students will be able to write & outline the Principles of surveying and levelling will be known to student.

Bloom's Level	Mapping with respect to CO2
Create	To develop a complete knowledge of levelling for excavation project.
Evaluate	To plan the cutting and filling volumes for a highway project.
Analyze	To relate the types of ranging done for surveying.
Apply	To solve the problems related to determining Reduced Level of a point on ground.
Understand	To summarize how one can determine the bearings of a line in field.
Remember	Defining the important precautions required at the time of angular & Linear Measurements.

Lecture Sl. No.	Topic	Unit based mapping
4	SURVEYING: Object, Principles; Types of Surveying; Site Plans	2
5	Plans; Maps; Scales & Unit of different Measurements.	2
6	Linear Measurements: Instruments used. Linear Measurement by Tape,	2
7	Ranging out Survey Lines and overcoming Obstructions	2
8	Angular Measurements: Instruments used	2
9	Introduction to Compass Surveying, Bearings and Longitude, Latitude of a Line	2
10	Introduction to total station. Levelling: Instrument used,	2

### Analysis of CO 3 –

CO3. Student will be able to differentiate between types of building.

Bloom's Level	Mapping with respect to CO3
Create	To develop a concept of types of building.
Evaluate	To plan the usage of a particular habitat on the basis of its aim of work and materials available.
Analyze	To relate the difference between various types of Industrial building.

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Apply	To solve the problems related to determining types of occupancy according to specific place's law.
Understand	To summarize the parts of residential building according to IBC.
Remember	Defining the types of building.

Lecture Sl. No.	Topic	Unit based mapping
11	BUILDINGS: Selection of site for Buildings, Layout of Building Plan, Types of buildings, Plinth area, carpet area, floor space index	3
12	Introduction to building byelaws.	3

#### Analysis of CO 4 –

CO4. Students will be able to classify the Importance of traffic engineering will be known to students.

Bloom's Level	Mapping with respect to CO4
Create	To develop a concept of types of transportation systems.
Evaluate	To plan the usage of a particular transport system based on the resources available.
Analyze	To relate the difference between various types transportation system.
Apply	To solve the problems related to traffic rules and regulations.
Understand	To summarize the parts of 3 E's (Engineering, Enforcement & Educations).
Remember	Defining the causes of accident.

Lecture Sl. No.	Topic	Unit based mapping
13	Introduction to Transportation Engineering; Traffic and Road Safety: Types and Characteristics of Various Modes of Transportation	4
14	Various Road Traffic Signs, Causes of Accidents and Road Safety Measures.	4

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### Analysis of CO 5 –

CO5. Students will be able to express and review about problem related to environment.

Bloom's Level	Mapping with respect to CO4
Create	To develop a concept of types of pollution and their source and control.
Evaluate	To plan the usage of a various equipment's in industries according to Environmental Laws.
Analyze	To relate the understanding of various cycles in nature. (Oxygen/Nitrogen Cycle etc)
Apply	To solve the problems related to generation of waste water and its management.
Understand	To summarize the concept of solid waste management.
Remember	Defining the Biodiversity and parts of ecosystem.

Lecture Sl. No.	Topic	Unit based mapping
15	ENVIRONMENTAL ENGINEERING: Environmental Pollution.	5
16	Functional Concepts of Ecology, Basics of Species,	5
17	Biodiversity, Ecosystem, Hydrological Cycle;	5
18	Water Pollution: Water Quality standards	5
19	Introduction to Treatment & Disposal of Waste Water.	5
20	Solid Waste Management: Classification of Solid Waste, Collection, Transportation.	5
21	Air; Noise Pollution: Primary and Secondary air pollutants, Harmful effects of Air Pollution, Control of Air Pollution.	5
22	Noise Pollution, Harmful Effects of noise pollution, control of noise pollution,	5

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**CO-PO Mapping:**

Basic Civil Engineering Year of study: 2020-21															
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1															
CO2	3	3	3	3	2				3	2	2	2		1	
CO3	1	1	1												
CO4						3	2	3							
CO5				2	1		3	3				1		1	

CO No.	Justification
CO1	Students will be able to describe and write the Role of civil engineer and impact of infrastructure on society. This CO corresponds to the Unit 1 and is theory based topic which didn't corresponds to any of the Program outcome on any scale.
CO2	Students will be able to write & outline the Principles of surveying and levelling will be known to student. This CO corresponds to the Unit 2 and students can do the calculations to find the level differences in site and can also measure angles and distance with the help of various instrument, it includes knowledge of mathematics, science, engineering fundamentals, analyse complex engineering problems, interpretation of data, and synthesis of the information, apply appropriate techniques with multidisciplinary settings. Therefore it is strongly mapped with PO1, PO2, PO3, PO4 and PO9, also partially to PO5, PO11, and PO12 & PSO2.
CO3	Student will be able to differentiate between types of building. This CO Corresponds to the Unit 3 and it outlines the topics related to types of building, in which students can use basic science concepts and engineering principles to understand the phenomena related to lightning & ventilation in houses. Therefore it is partially mapped with PO1, PO2 and PO3.
CO4	Students will be able to classify the Importance of traffic engineering will be known to students. This CO Corresponds to the Unit 4 and it explain students the concept of traffic studies, engineering, enforcement and education related to the traffics safety concerns. Therefore it is strongly mapped to PO6, PO7 and PO8.
CO5	Students will be able to express and review about problem related to environment. This CO Corresponds to Unit 5 which outlines the major types of pollution, their prevention, biodiversity, ecosystem and earth as a single balanced place to live with. Therefore it is strongly mapped with PO7, PO8 and partially with PO4, PO5, PO 12 and PSO2.
Overall Justification	Apart from CO 1, All of the CO's are going to align at some scale to the all PO's and PSO's. CO2 consists of practical knowledge, mathematical calculation and society related tasks that's why it is mapped with maximum PO's.

**Text Books:**

Satheesh Gopi, "Basic Civil Engineering Book", Pearson Education India.

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TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY UDAIPUR

Civil Engineering Department

B. TECH I-YEAR (I/II SEM)

SUBJECT 1FY3-09 BASIC CIVIL ENGINEERING

**ASSIGNMENT 1**

*Answer all questions. Each question carries 5 marks*

1. Explain the role of civil engineering on site. [CO1]
2. Explain the effect of infrastructure on the economy of a country. [CO1]
3. Describe what a chain is? And also write its types. [CO2]
4. Explain the process of Levelling and instruments used in it. [CO2]
5. Explain what are building by laws. [CO3]
6. What are the types of building? [CO3]

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Civil Engineering Department

B. TECH I- YEAR (I/II SEM)

SUBJECT 1FY3-09 BASIC CIVIL ENGINEERING

**ASSIGNMENT 2**

*Answer all questions. Each question carries 5 marks*

1. Explain the role of a transportation system in a country. [CO4]
2. Explain what are the different types of transportation system? [CO4]
3. Describe what are the causes of accident? [CO4]
4. Explain what air & water pollution are? [CO5]
5. Explain what an ecosystem is? [CO5]
6. What do you understand by Solid waste management? [CO5]

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TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY UDAIPUR

Civil Engineering Department

B. TECH I- YEAR (I/II SEM)

SUBJECT IFY3-09 BASIC CIVIL ENGINEERING

**VIVA-VOCE**

**UNIT-1 [CO-1]**

Q.1: What are the branches of Civil Engineering?

Q.2: What is the role of a civil engineer?

Q.3: Describe the scope of civil engineering?

**UNIT-2 [CO-2]**

Q.1: What are the types of bearing system?

Q.2: What do you understand by fore bearing & Back Bearing?

Q.3: What is a datum, Bench mark and reduced level?

**UNIT-3 [CO-3]**

Q.1 Explain Building by laws.

Q.2 Explain classes of residential building by IBC?

Q.3 Explain the types of Industrial building?

**UNIT-4 [CO-4]**

Q.1: What are 3E's in traffic engineering?

Q.2: What can be the causes of an accident?

Q.3: Which is efficient, a waterways or railways or airways transportation system also state why?

**UNIT-5 [CO-5]**

Q.1: Explain Noise pollution with its sources and its control.

Q.2: Describe the process of Global warming.

Q.3: What do you understand by Biodiversity and why is it necessary?

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Civil Engineering Department

B. TECH I- YEAR (I/II SEM)

SUBJECT 1FY3-09 BASIC CIVIL ENGINEERING

**QUIZ 1**

1. The carbon content of steel is:
  - a) Less than 0.15%
  - b) 2% – 4%
  - c) 0.08%
  - d) 0.002% – 2.1%
  
2. The main principle of surveying is to work
  - A. from part to the whole
  - B. from whole to the part
  - C. from higher level to the lower level
  - D. from lower level to higher level.
  
3. On a diagonal scale, it is possible to read up to
  - A. One dimension
  - B. Two dimensions
  - C. Three dimensions
  - D. Four dimensions.
  
4. While measuring a chain line between two stations A and B intervened by a raised ground
  - A. vision gets obstructed
  - B. chaining gets obstructed
  - C. both vision and chaining get obstructed
  - D. all the above.

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5. In chain surveying field work is limited to
- A. linear measurements only
  - B. angular measurements only
  - C. both linear and angular measurements
  - D. all the above.
6. Chain surveying is well adopted for
- A. small areas in open ground
  - B. small areas with crowded details
  - C. large areas with simple details
  - D. large areas with difficult details.
7. Determining the difference in elevation between two points on the surface of the earth, is known as
- A. levelling
  - B. simple levelling
  - C. differential levelling
  - D. longitudinal levelling.
8. When the bubble of the level tube of a level, remains central
- A. line of sight is horizontal
  - B. axis of the telescope is horizontal
  - C. line of collimation is horizontal
  - D. geometrical axis of the telescope is horizontal.
9. The imaginary line passing through the intersection of cross hairs and the optical centre of the objective, is known as
- A. line of sight
  - B. line of collimation
  - C. axis of the telescope
  - D. none of these.

10. The back staff reading on a B.M. of R.L. 500.000 m is 2.685 m. If foresight reading on a point is 1.345 m, the reduced level of the point, is

- A. 502.685 m
- B. 501.345 m
- C. 501.340 m
- D. 504.030 m

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## ANSWER KEY

1. Answer: d

Explanation: Cast iron contains 2-4% of carbon, wrought iron contains less than 0.15% of carbon and stainless steel contains maximum 0.08% carbon.

2. B. from whole to the part

3. C. Three dimensions

4. A. vision gets obstructed

5. A. linear measurements only

6. A. small areas in open ground

7. C. differential levelling

8. A. line of sight is horizontal

9. B. line of collimation

10. C. 501.340 m

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TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY UDAIPUR

Civil Engineering Department

B. TECH I- YEAR (I/II SEM)

SUBJECT 1FY3-09 BASIC CIVIL ENGINEERING

**QUIZ 2**

1. A metallic tape is made of

- a) Steel
- b) Invar
- c) Linen
- d) Cloth and wires

2. The correction for sag is

- a) Always additive
- b) Always subtractive
- c) Always zero
- d) Sometimes additive and sometimes subtractive

3. The maximum tolerance in a 20 m chain is

- a)  $\pm 2$  mm
- b)  $\pm 3$  mm
- c)  $\pm 5$  mm
- d)  $\pm 8$  mm

4. For accurate work, the steel band should always be used in preference to chain because the steel band

- a) is lighter than chain
- b) is easier to handle
- c) is practically inextensible and is not liable to kinks when in use
- d) can be easily repaired in the field

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5. The length of a chain is measured from

- a) Centre of one handle to centre of other handle
- b) Outside of one handle to outside of other handle
- c) Outside of one handle to inside of other handle
- d) Inside of one handle to inside of other handle

6. Select the incorrect statement.

- a) The true meridians at different places are parallel to each other.
- b) The true meridian at any place is not variable.
- c) The true meridians converge to a point in northern and southern hemispheres.
- d) The maps prepared by national survey departments of any country are based on true meridians

7. If the true bearing of a line AB is  $269^{\circ} 30'$ , then the azimuth of the line AB is

- a)  $0^{\circ} 30'$
- b)  $89^{\circ} 30'$
- c)  $90^{\circ} 30'$
- d)  $269^{\circ} 30'$

8. In the prismatic compass

- a) The magnetic needle moves with the box
- b) The line of the sight does not move with the box
- c) The magnetic needle and graduated circle do not move with the box
- d) The graduated circle is fixed to the box and the magnetic needle always remains in the N-S direction

9. The horizontal angle between the true meridian and magnetic meridian at a place is called

- a) azimuth
- b) Declination
- c) Local attraction
- d) Magnetic bearing

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10. Theodolite is an instrument used for
- a) Tightening the capstan-headed nuts of level tube
  - b) Measurement of horizontal angles only
  - c) Measurement of vertical angles only
  - d) Measurement of both horizontal and vertical angles

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### ANSWER KEY

1. D) Cloth and wires.
2. B) Always subtractive.
3. C)  $\pm 5$  mm.
4. C) is practically inextensible and is not liable to kinks when in use.
5. B) Outside of one handle to outside of other handle.
6. A) the true meridians at different places are parallel to each other.
7. C)  $90^\circ 30'$
8. C) the magnetic needle and graduated circle do not move with the box
9. B) Declination
10. D) Measurement of both horizontal and vertical angles

1E2409

1E2409

B.Tech. I semester (Main) Examination, Dec. - 2018  
ESC  
1FY3-09 Basic Civil Engg.

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

Attempt all five questions from Part A, selecting four questions from Part B and two from Part C. (Schematic diagrams must be shown wherever necessary). Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

**Part - A**

(Short answer questions up to 25 words ). All question are compulsory.

(5×2=10)

1. Discuss scope of civil engineering and give any two objects of civil engineering.
2. Write down the formula for tape correction due to - temperature and tape correction for sag.
3. Write down the different units of measurements.
4. Explain in brief the term R.C.C.
5. Define levelling and any one objects of levelling.

**Part - B**

(Analytical/Problem Solving Questions). Attempt any four question. (4×10=40)

1. Convert the following whole circle Bearing of lines in to quadrantal Bearing system as :
  - i) 35°
  - ii) 115°
  - iii) 210°
  - iv) 315°

**RTU** The following readings were observed with a 4 metre levelling staff and a dumpy level. Calculate the reduced level by Height of Instrument (H.I.) method. Also apply a arithmetical check. The reading given in table as :

STATION	B.S.	I.S	F.S	H.I.	R.L	REMARK
A	3.25				210.00	B.M.
B		3.15				
C		3.25				
D		2.95				
E			2.85			

3. Explain Fundamental principles of surveying upon which the various methods of surveying is based? Explain how will you fix a point C in the field in relation to two points 'A' and 'B' which is already fixed in the field.
4. What are the various safety measures will you take during accidents, in civil construction and in Traffic.
5. Describe impact of Infrastructural development on economy of country and role of civil engineer in society.
6. Explain Hydrological cycle with neat sketch.

#### Part - C

(Descriptive/Analytical/Problem Solving/Design Question). Attempt any two question. (2×15=30)

1. Explain various components of buildings along with their functions.
2. State Building Bye laws. Explain various types of buildings along with their functions.
3. Describe Reuse and saving of water. Also explain Rain water harvesting with neat sketch.

2E2305

Roll No. \_\_\_\_\_

Total No. of Pages 3

2E2305

B. Tech. II Sem. (Main) Exam., May – 2018

CE -103 Basic Civil Engineering

Time: 3 Hours

Maximum Marks: 80  
Min. Passing Marks: 28**Instructions to Candidates:**

Attempt any five questions including Question No. 1, which is Compulsory.  
All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.  
Units of quantities used/calculated must be stated clearly.  
Use of following supporting material is permitted during examination.  
(Mentioned in form No.205)

1. NIL2. NIL**Q-1** Compulsory, Answers for each sub-question be given in about 25 words. [8×2=16]

- What is the object of surveying?
- What is Representative fraction?
- Explain the indirect ranging?
- What is Magnetic declination?
- Explain the height of instrument?
- Define the floor space index?
- What is the main function of alumina in brick?
- What is the initial setting time for ordinary portland cement as per IS specifications?

Q.2 (a) What is local attraction? How is it detected and eliminated? [8]

(b) The length of a line measured with a 20 meter chain was found to be 250 meters.

Calculate the true length of the line, if the chain was 10 cm too long? [4]

(c) Write a short note on total station. [4]

Q.3 (a) Explain the importance of a Civil Engineer in society? [8]

(b) What are the various uses of stones? [4]

(c) Mention the uses of cement. [4]

Q.4 (a) What should be the planning for proper sunlight and ventilation in a building? [8]

(b) Explain the basic concept of R.C.C.? [4]

(c) Write the components of a building. [4]

Q.5 (a) Explain the various road traffic signs. [8]

(b) Define levelling. Explain spirit levelling. [4]

(c) Write a short note on building bye-laws? [4]

Q.6 (a) Explain ranging out survey lines. [8]

(b) What are the impacts of infrastructural development on economy of country? [4]

(c) What are the qualities of good bricks? [4]



- Q 7 (a) Write the characteristics of various modes of transportation [8]
- (b) What are the basic systems of rotation of bearings? [4]
- (c) Write a short note on road safety measures [4]

RTU PAPER

RTU PAPER

RTU PAPER

DEPARTMENT OF COMPUTER SCIENCE AND ENGG.							
MID TERM I EXAM MARK RECORD							
I YEAR I SEM SEC A and B							
S.NO.	NAME OF STUDENT						TOTAL
	CO MAPPED	CO1	CO2	CO3	CO4	CO5	
	MAX MARKS	32	63				70
1	Aashish patel	28	15				43
2	Abir Choudhury	11	49				60
3	Aditya Sharma	25	30				55
4	Ajaypal singh chundawat	16	48				64
5	Akshat Audichya	10	48				58
6	Akshi Jain	26	33				59
7	Amartya Panwar	24	25				49
8	Anurag Salvi	26	20				46
9	Archi Pamecha	12	48				60
10	Archi Paneri	16	48				64
11	Arnav Tyagi	24	32				56
12	Aryaman Vyas	25	33				58
13	Arzoo Bapna	16	48				64
14	Asim Ali DM	24	35				59
15	Bhanu Pratap Ahir	26	26				52
16	Bhanushree Chundawat	26	29				55
17	Bharat Kumar	27	34				61
18	Bhavesh Dharwar	24	6				30
19	Burhanuddin	14	48				62
20	Charvi Gokhru	15	48				63
21	Charvi Upadhyay	16	48				64
22	Chauhan Suraj Singh	27	22				49
23	Chirag Joshi	25	33				58
24	Daksh Sharma	26	30				56
25	Deepansha Baya	24	35				59
26	Deepanshu Kumawat	24	16				40
27	Deepesh Choudhary	26	27				53
28	Dev Bikaneria	24	32				56
29	Devendra Singh Rao	25	30				55
30	Devesh Mali	24	28				52
31	Devraj Singh Gehlot	9	48				57
32	Devraj Singh Rao	25	30				55
33	Dhruv Paliwal	24	31				55
34	Dikshant Dak	11	48				59
35	Divya Kavdia	24	27				51
36	Divyam Saini						
37	Divyanshu Lohar	26	15				41
38	Dixant Mishra	29	27				56
39	Gagan Jain	7	48				55
40	Garima Parmar	24	27				51
41	Gaurav Jain		48				56

For Techno India NJR Institute of Technology  
 पंकज पोखवाल  
 Dr. Pankaj Kumar Porwal  
 (Principal)

42	Gaurav Vashishtha	25	10				35
43	Gouri Kumawat	26	36				62
44	Gunreet Kaur	11	48				59
45	Hanshika Mehta	25	32				57
46	Harsh Menon	26	22				48
47	Harsh Singh						
48	Harshali Jain	11	48				59
49	Harshit Paneri	25	42				67
50	Himanshi Jain	26	23				49
51	Himanshi Suhalka	24	29				53
52	Himanshu Hada	11	48				59
53	Himanshu Joshi	24	34				58
54	Ishita Pagaria	26	29				55
55	Jaideep Kumawat	25	25				50
56	Jainam Jain	26	26				52
57	Jash Hinger	24	28				52
58	Jatin Ameta	25	23				48
59	Jayesh Menariya						
60	Kanishk Asawara	24	21				45
61	Khetesh Suthar	26	29				55
62	Khush Gadhwal	27	28				55
63	Khushi Mathur	27	15				42
64	Krishna Agarwal	24	29				53
65	Lakshit Kumawat	10	48				58
66	Lakshya Khandelwala	24	22				46
67	Lakshya Raj Singh	28	21				49
68	Manav Tailor	26	24				50
69	Manvi Paliwal	24	24				48
70	Mohammed Amaan	25	28				53
71	Mohammed Anjar	25	20				45
72	Mohammed Asif Raza	24	21				45
73	Monish Soni	26	27				53
74	Ms Khushi Vyas	26	22				48
75	Muskan Choudhary	24	29				53
76	Naman Sharma	25	29				54
77	Neha Chouhan	26	22				48
78	Nikhil Mali	24	31				55
79	Nishant Sharma	26	23				49
80	Palak Agarwal	24	22				46
81	Paramveer Singh Rathore	25	29				54
82	Parv Jain	24	30				54
83	Patel Dharmik	26	25				51
84	Patel Sakshee	26	22				48
85	Piyush Dave	16	48				64
86	Pranjul Singh						
87	Pratham Pitliya	28	21				49
88	Pratham Singh Tanwar	29	18				47

For Techno India NJR Institute of Technology  
 पंकज पोखवाल  
 Dr. Pankaj Kumar Porwal  
 (Principal)

89	Preeti Kushwaha	7	48				55
90	Prem Prajapat	26	21				47
91	Priyanshu Arora	7	48				55
92	Pushkar Suthar	25	27				52
93	Raunak Jain	16	49				65
94	Rohan Pratap Singh	24	18				42
95	Rohit Tailor	17	48				65
96	Sanjay Menaria	24	29				53
97	Sanket Trivedi		48				60
98	Shailesh Meghwal	24	16				40
99	Shubh Dad	25	25				50
100	Siddharth Bansal	29	29				58
101	Siddharth Sharma	27	18				45
102	Somya Champawat	26	24				50
103	Sonakshi Negi	26	25				51
104	Sourabh Somani	28	20				48
105	Sudhanshu Dengra	5	48				53
106	Sunil Kumawat	26	26				52
107	Surajmal Suthar	27	8				35
108	Syed Nida Aali	7	48				55
109	Tehlil Mehmood Khan	12	49				61
110	Udit Kumawat	3	49				52
111	Varun Ameta	4	50				54
112	Vineet Agarwal	3	48				51
113	Virendra Singh Panwar	24	27				51
114	Vishal Sharma	25	24				49
115	Yash Kumar Gupta	13	48				61
116	Yash Mali	29	22				51
117	Yash Soni	24	6				30
118	Yashasvi Jhala	24	23				47
119	Yogesh Sankhla	25	15				40
120	Yukti Jain	25	27				52

For Techno India NJR Institute of Technology  
 पंकज पोखवाल  
 Dr. Pankaj Kumar Porwal  
 (Principal)

DEPARTMENT OF COMPUTER SCIENCE AND ENGG.							
MID TERM II EXAM MARK RECORD							
I YEAR I SEM SEC A and B							
S.NO.	NAME OF STUDENT					TOTAL	
	CO MAPPED	CO1	CO2	CO3	CO4	CO5	
	MAX MARKS			16	34	38	70
1	Aashish patel			14		29	43
2	Abir Choudhury			4	26	30	60
3	Aditya Sharma			15	9	31	55
4	Ajaypal singh chundawat			9	26	29	64
5	Akshat Audichya			6	26	3	35
6	Akshi Jain			14	15	30	59
7	Amartya Panwar			16	26	6	48
8	Anurag Salvi			12		31	43
9	Archi Pamecha			15	14	31	60
10	Archi Paneri			9	26	29	64
11	Arnav Tyagi			16	11		27
12	Aryaman Vyas			15	11	32	58
13	Arzoo Bapna			13	26	25	64
14	Asim Ali DM			13	13	33	59
15	Bhanu Pratap Ahir				1	29	30
16	Bhanushree Chundawat				26	29	55
17	Bharat Kumar			14	27	20	61
18	Bhavesh Dharwar			12	23		35
19	Burhanuddin			12	21	29	62
20	Charvi Gokhru			15	19	29	63
21	Charvi Upadhyay			7	27	30	64
22	Chauhan Suraj Singh			14	6	29	49
23	Chirag Joshi			15	2	30	47
24	Daksh Sharma			15	26		41
25	Deepansha Baya				26	33	59
26	Deepanshu Kumawat			15	15		30
27	Deepesh Choudhary			14	10	29	53
28	Dev Bikaneria			12	26	18	56
29	Devendra Singh Rao			13	13	29	55
30	Devesh Mali			3		29	32
31	Devraj Singh Gehlot			13	26	18	57
32	Devraj Singh Rao			12	14	29	55
33	Dhruv Paliwal				26	29	55
34	Dikshant Dak			26	4	29	59
35	Divya Kavdia			14	8	29	51
36	Divyam Saini						
37	Divyanshu Lohar			12		29	41
38	Dixant Mishra				29		29
39	Gagan Jain			13	13	29	55
40	Garima Parmar			14	8	29	51
41	Gaurav Jain			15		13	28
42	Gaurav Vashishtha				9	29	38
43	Gouri Kumawat			12	21	29	62

For Techno India NJR Institute of Technology  
 पंकज पोखवाल  
 Dr. Pankaj Kumar Porwal  
 (Principal)

44	Gunreet Kaur				30	29	59
45	Hanshika Mehta				26	31	57
46	Harsh Menon					25	25
47	Harsh Singh						
48	Harshali Jain				30	29	59
49	Harshit Paneri			12	26	29	67
50	Himanshi Jain			14	6	29	49
51	Himanshi Suhalka			14	10	29	53
52	Himanshu Hada				30	29	59
53	Himanshu Joshi			12	26		38
54	Ishita Pagaria				26	29	55
55	Jaideep Kumawat			12	23		35
56	Jainam Jain			16	29		45
57	Jash Hinger			14	9	29	52
58	Jatin Ameta			17		31	48
59	Jayesh Menaria				29	6	35
60	Kanishk Asawara					34	34
61	Khetesh Suthar				29	6	35
62	Khush Gadhwal			13	13	29	55
63	Khushi Vyas			12	26	10	48
64	Krishna Agarwal				26	29	55
65	Lakshit Kumawat			16	27	15	58
66	Lakshya Khandelwala			15		29	44
67	Lakshya Raj Singh			14		19	33
68	Manav Tailor			12	26		38
69	Manvi Paliwal				26	27	53
70	Mohammed Amaan			12	12	29	53
71	Mohammed Anjar			14		21	35
72	Mohammed Asif Raza			15	15	5	35
73	Monish Soni			13	11	29	53
74	Khushi Mathur						
75	Muskan Choudhary			14	10	29	53
76	Naman Sharma			13	12	29	54
77	Neha Chouhan			12	26	10	48
78	Nikhil Mali				26	29	55
79	Nishant Sharma			17		32	49
80	Palak Agarwal			12	25	12	49
81	Paramveer Singh Rathore				26	27	53
82	Parv Jain			13	12	29	54
83	Patel Dharmik			10	26		36
84	Patel Sakshee			6	26	3	35
85	Piyush Dave			9	26	29	64
86	Pranjul Singh						
87	Pratham Pitliya			9	26		35
88	Pratham Singh Tanwar			10	26		36
89	Preeti Kushwaha			13	12	30	55
90	Prem Prajapat			15	26		41
91	Priyanshu Arora			14	11	30	55
92	Pushkar Suthar				27		27

For Techno India NJR Institute of Technology  
 पंकज पौरवाल  
 Dr. Pankaj Kumar Porwal  
 (Principal)

93	Raunak Jain			9	27	29	65
94	Rohan Pratap Singh			8	26		34
95	Rohit Tailor			8	26		34
96	Sanjay Menaria			14	26	13	53
97	Sanket Trivedi				26	3	23
98	Shubh Dad			16	26	4	46
99	Siddharth Bansal			12	8	31	51
100	Siddharth Sharma			14	26	4	44
101	Somya Champawat			15	6	29	50
102	Sonakshi Negi			12	10	29	51
103	Sourabh Somani			12	26		38
104	Sudhanshu Dengra			14	26	13	53
105	Sunil Kumawat			13	26	13	52
106	Surajmal Suthar			6	26	3	35
107	Syed Nida Aali			13	12	30	55
108	Tehlil Mehmood Khan			5	27	29	61
109	Toyash Nagar			14		14	28
110	Udit Kumawat			13	26	13	52
111	Varun Ameta			13	26	15	54
112	Vineet Agarwal			12	26	13	51
113	Virendra Singh Panwar				26		26
114	Vishal Sharma			9	26		35
115	Yash Kumar Gupta			8	27	1	36
116	Yash Mali			12	27	12	51
117	Yash Soni			6	26	3	35
118	Yashasvi Jhala			14	27	5	46
119	Yogesh Sankhla			14	9	31	54
120	Yukti Jain			13	26	13	52

For Techno India NJR Institute of Technology  
 पंकज पौरवाल  
 Dr. Pankaj Kumar Porwal  
 (Principal)

DEPARTMENT OF COMPUTER SCIENCE AND ENGG.															
Course Outcome Attainment Sheet (Semester)															
1 YEAR I SEM/SEC/A and B															
Name of Faculty: Sangeeta Choudhary															
S.NO	RTU ROLL NUMBER	NAME OF STUDENT CO-MAPPED	COURSE ATTAINMENT WITH TARGET IN %				TOTAL								
			COIPY209.1	COIPY209.2	COIPY209.3	COIPY209.4									
SUBJECT: Basic Civil Engineering			75%				75%								
MAX MARKS			32	63	34	38	183								
SEX Target Level			75%	75%	75%	75%	75%								
1		Aashish patel	28	15	14	0	29	1	0	1	0	1	0	1	86
2		Abir Choudhury	11	49	4	26	30	0	1	0	1	1	1	1	120
3		Aditya Sharma	25	30	15	9	31	1	0	1	0	1	0	1	110
4		Ajaypal singh chundawat	16	48	9	26	29	0	1	0	1	1	1	1	128
5		Akshat Audichya	10	48	6	26	3	0	1	0	1	1	1	0	93
6		Akshi Jain	26	33	14	15	30	1	0	1	1	0	1	1	118
7		Amartya Panwar	24	25	16	26	6	1	0	1	1	1	1	0	97
8		Anurag Salvi	26	20	12	0	31	1	0	1	1	1	0	1	89
9		Archit Pamecha	12	48	15	14	31	0	1	1	1	1	0	1	120
10		Archi Paneri	16	48	9	26	29	0	1	0	1	1	1	1	128
11		Arnav Tyagi	24	32	16	11	0	1	0	1	1	0	0	0	83
12		Aryaman Vyas	25	33	15	11	32	1	0	1	1	1	0	1	116
13		Arzoo Bapna	16	48	13	26	25	0	1	1	1	1	1	0	128
14		Asim Ali DM	24	35	13	13	33	1	0	1	1	0	0	1	118
15		Bhanu Pratap Ahir	26	26	0	1	29	1	0	0	0	0	0	1	82
16		Bhanushree Chundawat	26	29	0	26	29	1	0	0	0	0	1	1	110
17		Bharat Kumar	27	34	14	27	20	1	0	1	1	1	1	0	122
18		Bhavesh Dharwar	24	6	12	23	0	1	0	1	1	0	0	0	65
19		Burhanuddin	14	48	12	21	29	0	1	1	1	1	0	1	124
20		Charvi Gokhru	15	48	15	19	29	0	1	1	1	1	0	1	126
21		Charvi Upadhyay	16	48	7	27	30	0	1	1	0	1	1	1	128
22		Chauhan Suraj Singh	27	22	14	6	29	1	0	1	1	0	0	1	98
23		Chirag Joshi	25	33	15	2	30	1	0	1	1	0	0	1	105
24		Daksh Sharma	26	30	15	26	0	1	0	1	1	1	0	0	97
25		Deepansha Baya	24	35	0	26	33	1	0	0	0	1	1	1	118
26		Deepanshu Kumawat	24	16	15	15	0	1	0	1	1	0	0	0	70
27		Deepesh Choudhary	26	27	14	10	29	1	0	1	1	0	0	1	106

For Techno India NJR Institute of Technology  
 पंजाज पोखवाल  
 Dr. Pankaj Kumar Porwal  
 (Principal)



28	Dev Bikaneria	24	32	12	26	18	1	0	1	1	1	0	112
29	Devendra Singh Rao	25	30	13	13	29	1	0	1	1	0	1	110
30	Devesh Mali	24	28	3	0	29	1	0	0	0	0	1	84
31	Devraj Singh Gehlot	9	48	13	26	18	0	1	1	1	1	0	114
32	Devraj Singh Rao	25	30	12	14	29	1	0	1	1	0	1	110
33	Dhruv Paliwal	24	31	0	26	29	1	0	0	1	1	1	110
34	Dikshant Dak	11	48	26	4	29	0	1	1	1	0	1	118
35	Divya Kavdia	24	27	14	8	29	1	0	1	1	0	1	102
36	Divyam Saini	0	0	0	0	0	0	0	0	0	0	0	0
37	Divyanshu Lohar	26	15	12	0	29	1	0	1	1	0	1	82
38	Dixant Mishra	29	27	0	29	0	1	0	0	1	1	0	85
39	Gagan Jain	7	48	13	13	29	0	1	1	1	0	1	110
40	Garima Parmar	24	27	14	8	29	1	0	1	1	0	1	102
41	Gaurav Jain	0	48	15	0	13	0	1	1	1	0	0	76
42	Gaurav Vashishtha	25	10	0	9	29	1	0	0	0	0	1	73
43	Gouri Kumawat	26	36	12	21	29	1	0	1	1	0	1	124
44	Gunreet Kaur	11	48	0	30	29	0	1	0	1	1	1	118
45	Hanshika Mehta	25	32	0	26	31	1	0	0	1	1	1	114
46	Harsh Menon	26	22	0	0	25	1	0	0	0	0	0	73
47	Harsh Singh	0	0	0	0	0	0	0	0	0	0	0	0
48	Harshali Jain	11	48	0	30	29	0	1	0	1	1	1	118
49	Harshit Paneri	25	42	12	26	29	1	0	1	1	1	1	134
50	Himanshi Jain	26	23	14	6	29	1	0	1	1	0	1	98
51	Himanshi Suhalka	24	29	14	10	29	1	0	1	1	0	1	106
52	Himanshu Hada	11	48	0	30	29	0	1	0	1	1	1	118
53	Himanshu Joshi	24	34	12	26	0	1	0	1	1	1	0	96
54	Ishita Pagaria	26	29	0	26	29	1	0	0	1	1	1	110
55	Jaideep Kumawat	25	25	12	23	0	1	0	1	1	0	0	85
56	Jainam Jain	26	26	16	29	0	1	0	1	1	1	0	97
57	Jash Hinger	24	28	14	9	29	1	0	1	1	0	1	104
58	Jatin Ameta	25	23	17	0	31	1	0	1	1	0	1	96
59	Jayesh Menaria	0	0	0	29	6	0	0	0	0	1	0	35
60	Kanishk Asawara	24	21	0	0	34	1	0	0	0	1	1	79
61	Khetesh Suthar	26	29	0	29	6	1	0	0	0	1	0	90
62	Kaush Gadhwal	27	28	13	13	29	1	0	1	1	0	1	110

63	Khushi Vyas	27	15	12	26	10	1	0	1	0	1	1	1	0	90
64	Krishna Agarwal	24	29	0	26	29	1	0	1	0	0	1	1	1	108
65	Lakshit Kumawat	10	48	16	27	15	0	1	1	1	1	1	1	0	116
66	Lakshya Khandelwala	24	22	15	0	29	1	0	1	0	1	0	0	1	90
67	Lakshya Raj Singh	28	21	14	0	19	1	0	1	0	1	0	0	0	82
68	Manav Tailor	26	24	12	26	0	1	0	1	0	1	1	1	0	88
69	Manvi Paliwal	24	24	0	26	27	1	0	0	0	1	1	1	0	101
70	Mohammed Amaan	25	28	12	12	29	1	0	1	0	1	0	0	1	106
71	Mohammed Anjar	25	20	14	0	21	1	0	1	0	1	0	0	0	80
72	Mohammed Asif Raza	24	21	15	15	5	1	0	1	0	1	0	0	0	80
73	Momish Soni	26	27	13	11	29	1	0	1	0	1	0	0	1	106
74	Khushi Mathur	26	22	0	0	0	1	0	1	0	0	0	0	0	48
75	Muskan Choudhary	24	29	14	10	29	1	0	1	0	1	0	0	1	106
76	Naman Sharma	25	29	13	12	29	1	0	1	0	1	0	0	1	108
77	Neha Chouhan	26	22	12	26	10	1	0	1	0	1	1	1	0	96
78	Nikhil Mali	24	31	0	26	29	1	0	0	0	1	1	1	1	110
79	Nishant Sharma	26	23	17	0	32	1	0	1	0	1	0	0	1	98
80	Palak Agarwal	24	22	12	25	12	1	0	1	0	1	0	0	0	95
81	Paramveer Singh Rathore	25	29	0	26	27	1	0	0	0	0	1	0	0	107
82	Parv Jan	24	30	13	12	29	1	0	1	0	1	0	0	1	108
83	Patel Dharmik	26	25	10	26	0	1	0	0	0	0	1	0	0	87
84	Patel Sakshee	26	22	6	26	3	1	0	0	0	0	1	0	0	83
85	Piyush Dave	16	48	9	26	29	0	1	0	1	0	1	1	1	128
86	Pranjal Singh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	Pratham Pitliya	28	21	9	26	0	1	0	0	0	0	1	0	0	84
88	Pratham Singh Tanwar	29	18	10	26	0	1	0	0	0	0	1	0	0	83
89	Preeti Kushwaha	7	48	13	12	30	0	1	1	1	1	0	1	1	110
90	Prem Prajapat	26	21	15	26	0	1	0	0	0	1	1	0	0	88
91	Priyanshu Avora	7	48	14	11	30	0	1	1	1	1	0	0	1	110
92	Pushkar Suthar	25	27	0	27	0	1	0	0	0	0	1	0	0	79
93	Raunak Jain	16	49	9	27	29	0	1	0	0	0	1	1	1	130
94	Roban Pratap Singh	24	18	8	26	0	1	0	0	0	0	1	0	0	76
95	Rohit Tailor	17	48	8	26	0	0	1	0	0	0	1	0	0	99
96	Ranjay Menaria	24	29	14	26	13	1	0	1	0	1	1	0	0	106
97	Ranjet Trivedi	0	48	0	26	3	0	1	0	1	0	1	0	0	77

98	Shubh Dae	24	16	16	26	4	1	0	1	1	1	0	0	86
99	Siddharth Bansal	25	25	12	8	31	1	0	1	0	0	1	1	101
100	Siddharth Sharma	29	29	14	26	4	1	0	1	1	0	0	1	102
101	Somya Champawat	27	18	15	6	29	1	0	1	0	0	1	1	95
102	Sonakshi Negi	26	24	12	10	29	1	0	1	0	0	1	1	101
103	Sourabh Sornani	26	25	12	26	0	1	0	1	1	0	0	0	89
104	Sudhanshu Dengra	28	20	14	26	13	1	0	1	1	0	0	0	101
105	Suril Kumawat	5	48	13	26	13	0	1	1	1	0	0	0	105
106	Surajmal Suthar	26	26	6	26	3	1	0	0	0	1	0	0	87
107	Syed Nida Aali	27	8	13	12	30	1	0	1	0	0	1	0	90
108	Tehsil Mehmood Khan	7	48	5	27	29	0	1	0	0	1	1	1	116
109	Toyash Nagar	12	49	14	0	14	0	1	1	0	0	0	0	89
110	Udit Kumawat	3	49	13	26	13	0	1	1	1	0	0	0	104
111	Varun Aneta	4	50	13	26	15	0	1	1	1	0	0	0	108
112	Vineet Agarwal	3	48	12	26	13	0	1	1	1	0	0	0	102
113	Vinendra Singh Panwar	24	27	0	26	0	1	0	0	0	1	0	0	77
114	Vishal Sharma	25	24	9	26	0	1	0	0	0	1	0	0	84
115	Yash Kumar Gupta	13	48	8	27	1	0	1	0	1	0	0	0	97
116	Yash Mali	29	22	12	27	12	1	0	1	1	0	0	0	102
117	Yash Soni	24	6	6	26	3	1	0	0	0	1	0	0	65
118	Yashvati Jhala	24	23	14	27	5	1	0	1	1	0	0	0	93
119	Yogesh Sanakha	25	15	14	9	31	1	0	1	1	0	0	1	94
120	Yukti Jain	25	27	13	26	13	1	0	1	1	0	0	0	104
<b>Total No. of Students</b>		120	120	120	120	120	86	30	75	62	61	61	61	61

**Rationale:**

-While setting up the question paper choice was given within the same CO with same complexity/difficulty level and no CO is missed out.  
 -If the student obtains target set for CO in terms of %age, score of 1 is given and if not zero is given  
 -Those students who were found poor in achieving Course outcome, remedial classes are subjected to be scheduled.

**CO Attainment Calculation**

No. of Students Attained CO11309.1	No. of Students Attained CO11309.2	No. of Students Attained CO11309.3	No. of Students Attained CO11309.4	No. of Students Attained CO11309.5
72	3	1	3	2
25	1	3	2	2
63	3	3	2	2
52	2	2	2	2
51	2	2	2	2

**Rationale:**

If 0-15% students get > target % then Attainment Level=0  
 If 15-45% students get > target % then Attainment Level=1  
 If 45-60% students get > target % then Attainment Level=2  
 If 60-100% students get > target % then Attainment Level=3

Signature Subject Teacher:

*(Handwritten Signature)*  
 NJP Institute of Technology  
 Raj Kumar Porwal  
 Principal

# Building Bye Laws

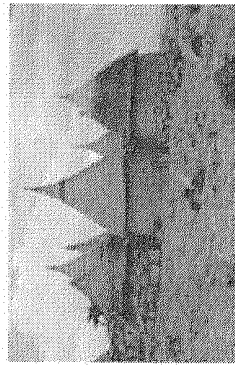
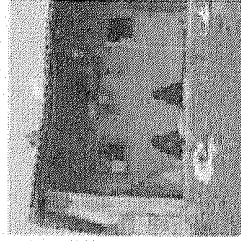
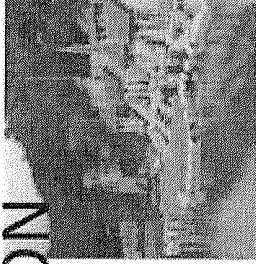
An Overview of Indian condition

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(Principal)

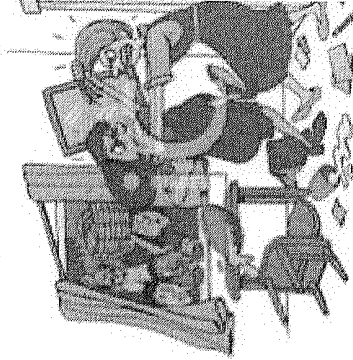
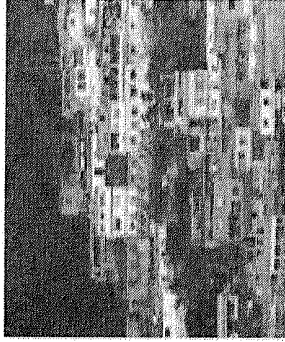


# INTRODUCTION

- Mode of construction varies from region to other region depending upon motive of owners, availability of material, labour, construction and weather conditions.



## PURPOSE



- If certain rules and regulations are not made, house owner may construct residential building as per his whims and fancies.
- Hence it is essential to maintain and implement the bye laws to provide proper ventilation, privacy, security and safety between the neighbors.

## DEFINITION

- **Bye law:** the construction of any building, certain restrictions are laid down by Municipal bodies, Urban development authorities and other government departments as town planning trusts to clear open spaces to be left round the building.
- **Example:** BDA, BBMP, MUDA, CITY Corporation.

## Objectives of Building Bye laws

- Allows disciplined and systematic growth of buildings and towns and prevent haphazard development.
- Protect safety of public against fire, noise, health hazards and structural failures.
- Provide proper utilization of space. Hence, maximum efficiency in planning can be derived from these bye laws
- They give guidelines to the architect or an engineer in effective planning and useful in preplanning the building activates.
- They provide health, safety and comfort to the people who live in buildings
- Due to these by-laws, each building will have proper approaches, light, air and ventilation which are essential for health, safety and comfort.



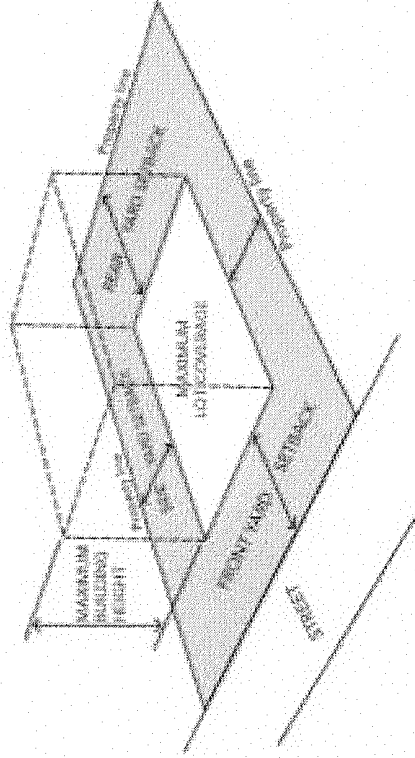
## Some Terminologies

- **Amalgamation:** Combining two or more plots as a single plot.
- **Amenities:** Means roads, open spaces, parks, recreational grounds, gardens, water supply, electric supply, lighting, sewerage, drainage and conveniences.
- **Bifurcation:** Means bifurcation of a plot into two.
- **Building line:** Means the line up to which the plinth of a building may lawfully extend within the plot on a street or an extension of a street. No overhead projections are allowed beyond the building line.
- **Building setback:** Minimum distance between any building or any structure from the boundary line of the plot.
- **Frontage:** Frontage means the width of the site abutting the access road.
- **Height of building:** Means the vertical distance measured, in the case of flat roofs, from the average level of the ground around and contiguous to the building up to the highest point of the building
- **High rise building or Multi-Storeyed Building:** Means a building of a height of 24 meters or more above the average surrounding ground level.

# Open Space Requirement

- Set back line ( Front building line) is the line up to which we can extend our construction.

Building Envelope



Type of residential building	Plot size sqm	Frontage m
Detached building	Above 250	Above 12
Semi-detached building	125-250	8- 12
Row type building	50-125	4.5 - 8

# Open space around the building

Front Open space

Width of street fronting the plot, m	Front open space minimum, m
Up to 7.5	1.5
7.5 – 18	3.0
18-30	4.5
Above 30	6.0

Side and rear Open space

Height of building, m	Left around the building, m
10	3
15	5
18	6
21	7
24	8
30	10
40	12
50	14
53 and above	16

# Interior Space Requirement

Interior Open space	
Inner courtyard	Minimum 3m
Ventilation shaft	Not less than 0.9m for 10m ht of building
Outer courtyard	2.4 m

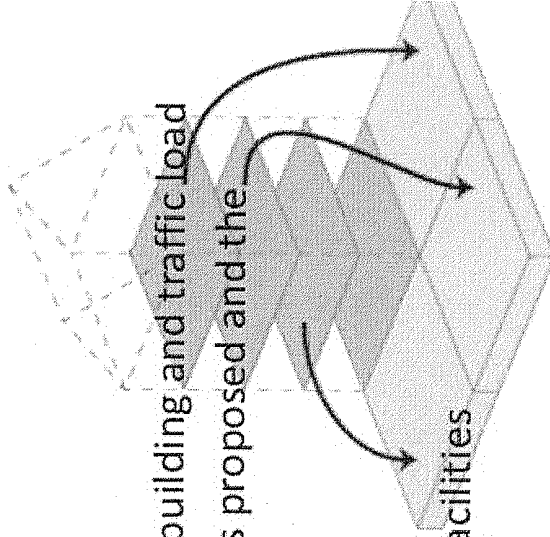
Minimum Size of different rooms		
No	Name of the Room	Minimum size of side
1	Habitable room a) Bed Room b) Living Room c) Drawing Room d) Dining Room e) Study Room	9.5 sqm
2	Kitchen	5 sqm
3	Bath room water closets	1.8 sqm 1.1 sqm
4	Store Room	3 sqm
5	Garage	12.5 sqm
6	Staircase	15 sqm

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$$\text{FAR} = \frac{\text{Total covered area of all floors}}{\text{Plot area}}$$

• **Floor Area Ratio(FAR):** is specified taking into account the following aspects:

- a) Occupancy class
- b) Type of construction
- c) Width of street fronting the building and traffic load
- d) Locality where the building is proposed and the density
- e) Parking facilities
- f) Local fire fighting facilities
- g) Water supply and drainage facilities



- FAR for residential building is ranging from 1.0 to 2.0 depending on the type of construction.
- It restricts the height of the building and number of storeys provided.

For example

Plot area = 15 m x 20m = 300 sqm,

FAR = 2.0,

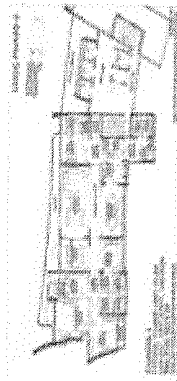
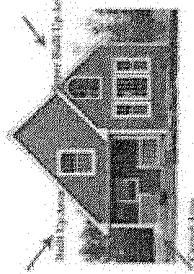
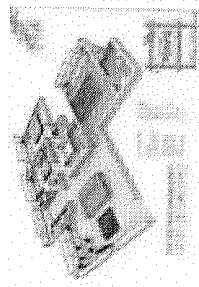
ground cover ( after set backs) = 150 sqm,

Total build up area = FAR x plot area = 2 x 300 = 600 sqm

Then total no. of floors that can constructed

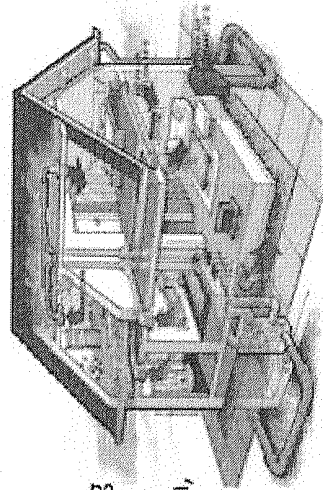
= ((total buildup area)/ ground cover) = 600/150 = 4 storeys.

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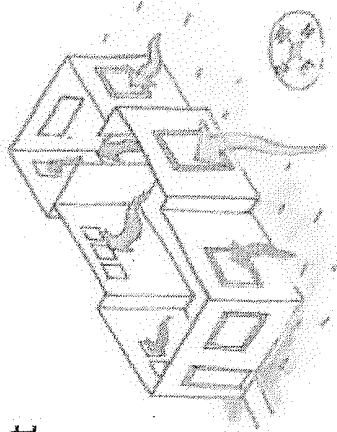
- **Carpet Area:** is the area enclosed within the walls, actual area to lay the carpet. This area does not include the thickness of the inner walls.
- **Built up Area (Plinth area):** is the carpet area plus the thickness of outer walls and the balcony.
- **Super Built Up Area:** is the built up area plus proportionate area of common areas such as the lobby, lifts shaft, stairs, etc.
  - Sometimes it may also include the common areas such, swimming pool, garden, clubhouse, etc. This term is therefore only applicable in the case of multi-dwelling units.

## Provision for Lighting and Ventilation



- Door opening is not counted in the lighting and ventilation of the building. Hence, the min area for opening shall be not less than,

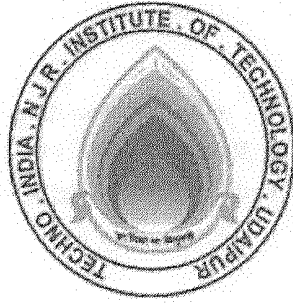
- a)  $1/10^{\text{th}}$  of the floor area for dry hot climate.
- b)  $1/6^{\text{th}}$  of the floor area for wet hot climate.
- c)  $1/8^{\text{th}}$  of the floor area for intermediate climate.
- d)  $1/12^{\text{th}}$  of the floor area for cold climate.





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(Principal)

# Techno India NJR Institute of Technology



## Course File

### Basic Civil Engineering (1FY3-09/ 2FY3-09)

Jitendra Choubisa  
(Assistant Professor)  
Department of CE

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Dr. Pankaj Kumar Porwal  
(Principal)

**Course Outcome Mapping with Program Outcome:**

Course Outcome	Program Outcomes (PO's)											
	CO. NO.	Domain Specific (PSO)					Domain Independent (PO)					
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	0	0	0	2	2	2	0	0	2	0	2
CO2	3	2	3	2	2	0	0	2	3	2	3	3
CO3	3	2	0	2	0	2	2	3	2	2	0	2
CO4	2	0	0	2	0	2	3	3	0	3	3	3
CO5	2	3	2	3	3	3	3	3	2	3	3	2

I: Slight (Low), 2: Moderate (Medium), 3: Substantial (High)

**Course Coverage Module Wise:**

Lecture No.	Unit	Topic
1	1	<b>INTRODUCTION:</b> to objective, scope and outcome the subject
2	2	<b>INTRODUCTION:</b> Scope and Specialization of Civil Engineering, Role of civil Engineer in Society
3	2	Impact of infrastructural development on economy of country.
4	3	<b>SURVEYING:</b> Object, Principles & Types of Surveying; Site Plans
5	3	Plans & Maps; Scales & Unit of different Measurements.
6	3	Linear Measurements: Instruments used. Linear Measurement by Tape,
7	3	Ranging out Survey Lines and overcoming Obstructions
8	3	Measurements on sloping ground; Tape corrections, conventional symbols.
9	3	Angular Measurements: Instruments used
10	3	Introduction to Compass Surveying, Bearings and Longitude & Latitude of a Line
11	3	Introduction to total station. Levelling: Instrument used,
12	3	Object of levelling, Methods of levelling in brief, Contour maps.
13	4	<b>BUILDINGS:</b> Selection of site for Buildings, Layout of Building Plan, Types of buildings, Plinth area, carpet area, floor space index

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**Course Level Problems (Test Items):**

CO.NO.	Problem description
1	A. Explain the types of branches in civil engineering. B. Discuss the roles of civil engineer at site C. Explain the impact of infrastructure development on the economy of a country.
2	A. Write and explain principles of surveying with diagram B. Explain the methods of surveying in the field. C. Discuss the types of bearing systems used in compass surveying. Explain what are Back bearing and Fore Bearing.
3	A. Explain the types of building used in construction. B. State the types of foundations.
4	A. Explain what the types of transportation system are. B. Explain what the use of traffic signs is and also explain its types. C. Discuss the 3 E's to reduce traffic accidents
5	A. Explain what are the sources and pollutants of Air pollution. B. Explain what the ways to reduce air pollution are. C. Explain the concept of recycling.

**Assessment Methodology:**

1. Practical exam in lab where they have to analyze the problem statement. (Once in a week)
2. Assignments one from each unit.
3. Midterm subjective paper based on topics as mentioned in the modules. (Twice during the semester)
4. Final paper at the end of the semester subjective.

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TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY, UDAIPUR

DEPARTMENT OF BASIC SCIENCE

SUBJECT: BASIC CIVIL ENGINEERING

I MID TERM EXAMINATION 2020-21

MAX MARKS: 70

TIME: 2 Hrs.

**Instruction for candidates:**

PART-A Attempt all Questions

PART-B Attempt any 4 out of 6 Questions

PART-C Attempt any 2 out of 3 Questions

PART-A

Q.1: Answer the following terms in 40 words:

- |  |       |
|--|-------|
| (a) Scale & Maps                                 | [CO1] |
| (b) Types of Tape                                | [CO1] |
| (c) Define Structural Engineering                | [CO1] |
| (d) Principles of Surveying                      | [CO1] |
| (e) Types of Bearing System in Compass Surveying | [CO1] |
| (f) Geotechnical Engineering                     | [CO1] |
| (g) Fore bearing & Back Bearing                  | [CO2] |
| (h) Ranging of Line.                             | [CO2] |
| (i) Compass                                      | [CO2] |
| (j) Meridian                                     | [CO2] |

(10 x 2 = 20 Marks)

PART-B

Q.2: Define what Civil engineering is and explain any 3 branches. [CO1] (5 Marks)

Q.3: Explain that the 'growth of economy of any country lies in the development of its infrastructure'. [CO1] (5 Marks)

Q.4: Explain the Role of civil engineer at construction site. [CO1] (5 Marks)

Q.5: Write down the types of Scale. Explain them with rough diagram. [CO2]

(5 Marks)

Q.6: Explain the characteristics of Chain used for linear measurement and write its types. (5 Marks)

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TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY, UDAIPUR

DEPARTMENT OF BASIC SCIENCE

SUBJECT: BASIC CIVIL ENGINEERING

II MID TERM EXAMINATION 2020-21

MAX MARKS: 70

TIME: 3 Hrs.

**Instruction for candidates:**

PART-A Attempt all Questions

PART-B Attempt any 5 Questions

PART-C Attempt any 3 Questions

PART-A

Q.1: Answer the following terms in 30 words:

- |                             |       |                            |       |
|-----------------------------|-------|----------------------------|-------|
| (a) Source of Air Pollution | [CO5] | (f) 3E's for Traffic Engg. | [CO4] |
| (b) Types of Transportation | [CO4] | (g) Eutrophication         | [CO5] |
| (c) Traffic Signs           | [CO3] | (h) Catalytic Converters   | [CO5] |
| (d) Safety in Traffic Engg. | [CO4] | (i) Air Pollutants         | [CO5] |
| (e) Floor space index.      | [CO3] | (j) Coral Sea              | [CO5] |

(10 x 2 = 20 Marks)

PART-B

- Q.2: Define what are building by laws. [CO3] (04 Marks)
- Q.3: Explain the causes of accidents. [CO4] (04 Marks)
- Q.4: Explain the modes of transportation & their characteristics. [CO4] (04 Marks)
- Q.5: Write the sources, effects & control of Air Pollution. [CO5] (04 Marks)
- Q.6: Explain in brief the process of Solid Waste Management. [CO5] (04 Marks)
- Q.7: Write down the factors affecting for site selection. [CO3] (04 Marks)
- Q.8: Write the types of building. [CO3] (04 Marks)

PART-C

- Q.9: Explain in detail the causes of road accidents, safety measure towards it.  
[CO4] (10 Marks)
- Q.10: Explain the concept of solid waste management. [CO5] (10 Marks)
- Q.11: What are the 3E's for reducing accident in Traffic Engg.? [CO4] (10 Marks)
- Q.12: Explain what is ecosystem and describe its types in details. [CO5] (10 Marks)

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1E2409

1E2409

B.Tech. I semester (Main) Examination, Dec. - 2018  
 ESC  
 1FY3-09 Basic Civil Engg.

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates:**

Attempt all five questions from Part A, selecting four questions from Part B and two from Part C. (Schematic diagrams must be shown wherever necessary). Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

**Part - A**

(Short answer questions up to 25 words). All question are compulsory.

(5×2=10)

1. Discuss scope of civil engineering and give any two objects of civil engineering.
2. Write down the formula for tape correction due to - temperature and tape correction for sag.
3. Write down the different units of measurements.
4. Explain in brief the term R.C.C.
5. Define levelling and any one objects of levelling.

**Part - B**

(Analytical/Problem Solving Questions). Attempt any four question. (4×10=40)

1. Convert the following whole circle Bearing of lines in to quadrantal Bearing system as :
  - i) 35°
  - ii) 115°
  - iii) 210°
  - iv) 315°

Roll No. \_\_\_\_\_

Total No. of Pages \_\_\_\_\_

2E2305

2E2305

B. Tech. II Sem. (Main) Exam., May – 2018  
CE -103 Basic Civil Engineering

Time: 3 Hours

Maximum Marks: 80  
Min. Passing Marks: 28

*Instructions to Candidates:*

Attempt any five questions including Question No. 1, which is Compulsory.  
All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.  
Units of quantities used/calculated must be stated clearly.  
Use of following supporting material is permitted during examination.  
(Mentioned in form No.205)

1. NIL2. NIL

Q-1 Compulsory, Answers for each sub-question be given in about 25 words. [8×2=16]

- What is the object of surveying?
- What is Representative fraction?
- Explain the indirect ranging?
- What is Magnetic declination?
- Explain the height of instrument?
- Define the floor space index?
- What is the main function of alumina in brick?
- What is the initial setting time for ordinary portland cement as per IS specifications?

[2E2305]

Page 1 of 3



- Q 7 (a) Write the characteristics of various modes of transportation (10)
- (b) What are the basic systems of motion of bearings? (4)
- (c) Write a short note on road safety measures (4)

RTUPAPER

RTUPAPER

RTUPAPER