



Academic year 2023-2024 (Odd Sem)

DEPARTMENT OF CIVIL ENGINEERING

Date	21-11-2023	Maximum Marks	50
Course Code	22ES24B	Duration	90 Min
Sem	I Semester	Offline Test-I	
Elements of Civil Engineering			

Instructions:

- Answer all the questions
- Assume any missing data suitably

Sl. No.	Questions	M	BT	CO
1.	Explain briefly the role of civil engineer in the infrastructural development of nation.	10	2	
2.	Explain briefly the scope of civil engineering in i. Structural engineering ii. Water resources engineering	10	3	
3.	Explain briefly the scope of civil engineering in i) Transportation engineering ii) Geotechnical engineering	10	2	
4.	Describe the idealization made in Engineering mechanics and also characteristics of a force	10	2	
5.	Three forces acting on a hook are as in Figure 1. Determine the direction of the fourth force of magnitude 100N such that the hook is pulled in x direction only. Determine the resultant force in x direction.	10	3	

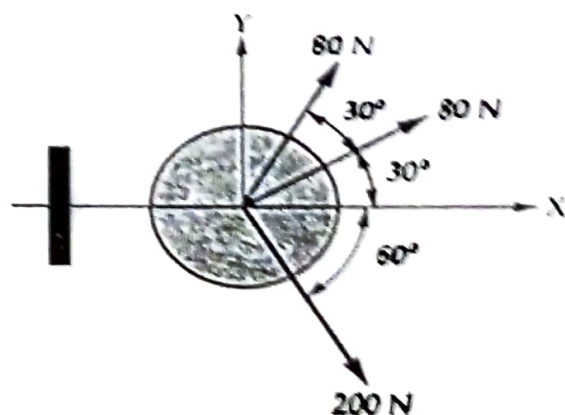
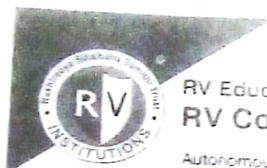


Figure 1

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	11	12	13	14	15	16
	Test	Max Marks	30	20	-	-	-	40	10			



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Academic year 2023-2024 (ODD Sem)

DEPARTMENT OF
CIVIL ENGINEERING

Date	28.12.2023	Maximum Marks	50
Course Code	CV113AT	Duration	90 Min (T)
Sem	I	CIE II	

ELEMENTS OF CIVIL ENGINEERING

Instructions: Answers all questions

Q. No.	Questions	Marks	Course Outcomes	BTL
1.	With a flow chart, explain the various units of water treatment plant.	10	CO2	L2
2.	Explain the process of waste water treatment with a neat sketch.	10	CO2	L2
3.	List the properties of a good bricks.	10	CO1	L2
4.	List the properties of portland cement.	10	CO1	L2
5.	Explain with a neat sketch the various components of a stair.	10	CO1	L2

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	Test	Max Marks	30	20	-	-	-	50	-	-	-	-



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Academic year 2023-2024 (Odd Sem)

DEPARTMENT OF CIVIL ENGINEERING

Date	23 rd January 2024	Maximum Marks	50
Course Code	CV113AT	Duration	90 Min
Semester	I Semester	CIE – III	

Elements of Civil Engineering

Q. No	Question	Marks	CO	BTL
1	Briefly explain the different types of solid waste.	10	CO3	L3
2	Discuss on the different methods of disposal of solid waste along with merits and demerits.	10	CO3	L2
3	Briefly explain the different components of flexible pavement.	10	CO4	L2
4	Explain briefly classification of ports and harbours	10	CO4	L3
5	Explain the importance of transportation in the development of a nation.	10	CO2	L2

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

	Particulars	CO1	CO2	CO3	CO4	CO5	L1	L2	L3	L4	L5	L6
Marks Distribution	Max Marks		10	20	20							

USN

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RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

I / II Semester B. E. Regular / Supplementary Examinations Feb-2024

Common to all programs

ELEMENTS OF CIVIL ENGINEERING (ELECTIVE)

Time: 03 Hours

Maximum Marks: 100

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. In Part B question number 2 is compulsory. Answer any one full question from 3 and 4, 5 and 6, 7 and 8 & 9 and 10.

PART-A

1	1.1	Name the field of civil engineering that deals with the study of soil and water supply.	02
	1.2	State Varignon's theorem.	02
	1.3	What are the constituents materials of RCC.	02
	1.4	What is floor area ratio?	02
	1.5	List the different types of water demand.	02
	1.6	List the challenges in designing and constructing energy efficient buildings.	02
	1.7	Describe different types of urban roads.	02
	1.8	What is the dimension of broad an standard gauge.	02
	1.9	What are the basic constituents of soil?	02
	1.10	Describe green infrastructure.	02

PART-B

2	a	List the different fields of civil engineering and discuss in brief the scope of any two.	08
	b	Discuss the different types of force systems with appropriate examples.	08
3	a	Describe the engineering uses of cement.	08
	b	With neat drawing, list the different components of a stair.	08
OR			
4	a	What is Lintel? List different types of Lintel used in Building construction.	08
	b	List different types of masonry with its constituent materials.	08
5	a	Describe the different sources of water.	06
	b	Discuss the water treatment process.	10
OR			
6	a	Discuss any six factors affecting, the site selection for green building construction.	06

	b	List and explain factors to be considered for designing green building.	10
7	a b	Describe the classification of roads based on location and function. What are the requirements of a good pavement?	08 08
OR			
8	a b	With a neat drawing describe the components of a flexible pavement. What are the requirements of permanent way?	08 08
9	a b	What are the transposed soil and discuss its classification. List and explain the factors to be considered in selection of foundation type.	08 08
OR			
10	a b	List and briefly explain the benefits of automation in construction. Discuss the different methods to achieve sustainability in civil engineering.	08 08