RV Educational Institutions
RV College of Engineering

Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi

Approved by AICTE, New Delhi

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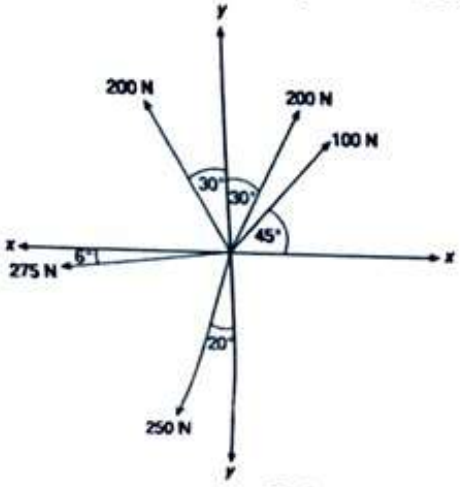
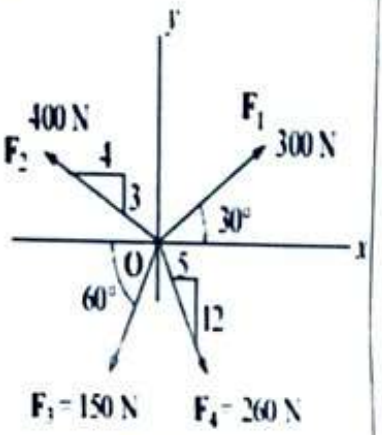
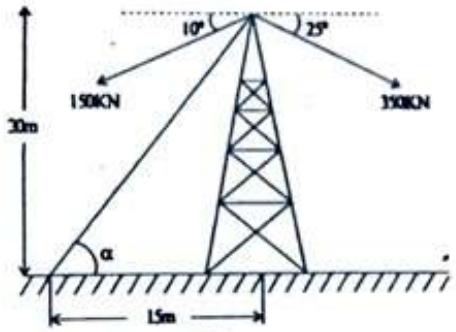
Academic year 2023-2024 (Even Sem)

DEPARTMENT OF CIVIL ENGINEERING

Date	11-07-2023	Maximum Marks	50
Course Code	22ES24B	Duration	90 Min
Sem	II Semester	Offline Test- 1	
Elements of Civil Engineering			

Instructions:

a) Answer all the questions
b) Assume any missing data suitably

Sl.No	Questions	M	BT	CO
1.	Explain the scope of civil engineering with respect to: a) Geotechnical engineering b) Surveying	10	2	1
2.	Five coplanar forces are acting at a point as shown in Fig.2; Determine the resultant in magnitude and direction and represent with illustrative sketch  Fig.2  Fig.3	10	3	3
3.	Determine the resultant of four forces acting on a body as shown in Fig 3 above.	10	3	3
4.	Two cables attached at the top of the tower carries a cable as shown in Fig 4. Determine the tension in the cable such that the resultant of the forces in all three cables acts vertically down, Determine the resultant magnitude and direction  Fig.4	10	3	3
5.	Write a brief note on : a) Bricks and its applications b) Cement and its application	10	2	1

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

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

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DEPARTMENT OF CIVIL ENGINEERING

Date	22-08-2023	Maximum Marks	50
Course Code	22ES24B	Duration	90 Min
Sem	II Semester	Offline Test- 2	
Elements of Civil Engineering			

Instructions:

a) Answer all the questions

b) Assume any missing data suitably

Sl.No	Questions	M	BT	CO
1.	Define foundation? Discuss briefly the different types of foundations with neat sketches?	10	2	1
2.	Four forces acting on 700mm X 375mm plate as shown in Fig 2., a) Find the resultants of these forces. b) Locate the point where the line of action of the resultants intersects the corner A of the plate	10	3	3
3.	Find the resultant magnitude, direction and its point of application from A for the square subjected to load as shown in Fig.3	10	3	3
4.	Explain with neat sketch the components of staircase? And also list out the different forms of staircase	10	2	2
5.	Write a brief note for the following a) Plinth area b) Floor area c) Carpet area d) Floor area ratio	10	2	1

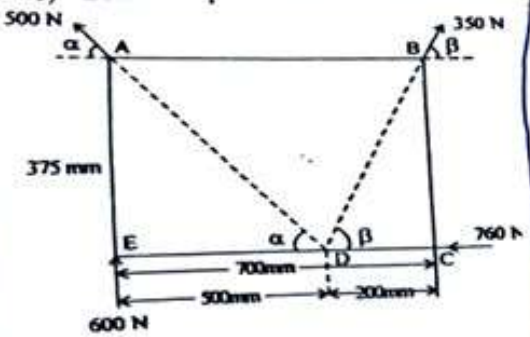

Fig.2

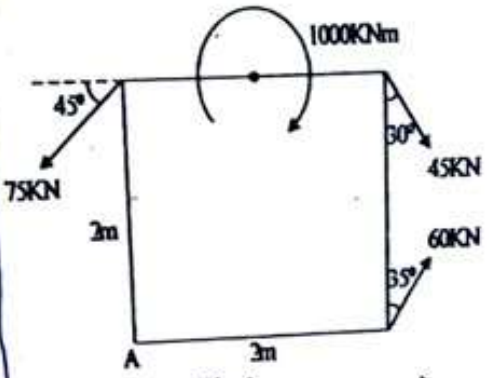

Fig.3

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

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	Test	Max Marks	20	10	20	-	-	30	20	-	-	-

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RV College of Engineering

Academic year 2023-2024 (Even Sem)

DEPARTMENT OF CIVIL ENGINEERING

Date	06-09-2023	Maximum Marks	50
Course Code	22ES24B	Duration	90 Min
Sem	II Semester	Offline Test-3	
	Elements of Civil Engineering		

Instructions:

a) Answer all the questions
b) Assume any missing data suitably

Sl. No.	Questions	M	BT	CO
1.	Explain the properties and the engineering applications of Bricks.	10	2	2
2.	Explain the properties and the types of Structural steel used in the constructions.	10	2	1
3.	Write a note on the following. i) Plinth level and sill level ii) Brick Lintel and RCC lintel	10	1	3
4.	Write any five sources of solid waste and the five types of Solid waste.	10	1	2
5.	Briefly explain the sources of water in terms of quality and enumerate the factors affecting rate of demand.	10	4	4

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

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

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22ES14B / 22ES24B

USN | 1 | R | V | 2 | 2 | E | I | 0 | 3 | S |

RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

I / II Semester B. E. Examinations Oct/Nov-2023

Common to all programs

ELEMENTS OF CIVIL ENGINEERING

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	State any two applications of geotechnical engineering.	02
	1.2	State Varignon's theorem.	02
	1.3	List the constituents of concrete and mortar.	02
	1.4	Define built up area.	02
	1.5	List any two uses of a plinth.	02
	1.6	Define energy efficient building.	02
	1.7	Differentiate broad gauge and a narrow gauge.	02
	1.8	List any four components of a smart building.	02
	1.9	Define shallow and deep foundation.	02
	1.10	List the structural elements of a building.	02

PART-B

2	a	Describe the Transportation Engineering and Environmental Engineering.	08
	b	Briefly explain the basic idealization in mechanics. Also discuss the characteristics of a force.	08
3	a	Briefly explain the characteristics of a good brick.	08
	b	Briefly explain any four components of a stair with a neat sketch.	08
		OR	
4	a	Briefly explain the different terms used in Masonry construction.	08
	b	List and explain different types of construction chemicals.	08
5	a	Briefly explain the importance of water supply scheme for a country.	10
	b	Briefly explain the various steps in water treatment plant.	06
		OR	
6	a	Briefly explain the procedure for the treatment of waste water.	08
	b	Describe the general plan followed for designing a smart building.	08

7	a	Describe the effect of transportation on societal development.	10
	b	Briefly explain the classification of tunnels.	06
		OR	
8	a	Briefly explain the cross sectional elements of a railway track.	08
	b	List and explain the functions of a rail.	08
9	a	Briefly explain the transported soils and mention its classification.	08
	b	Briefly explain the functions and requirements of a foundation.	08
		OR	
10	a	Discuss the classification of foundation.	08
	b	List the advantages and benefits of automation in construction.	08