RV College of Engineering

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R V College of Engineering

R V Vidyanikethan Post
Mysuru Road Bengaluru - 560 059

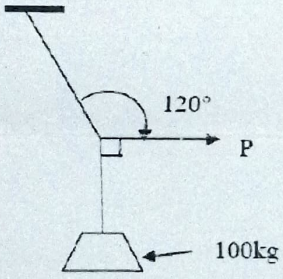
I / II Semester B.E Regular/Supplementary Examinations July/ August-2025.
(Common to ALL)
Course : Elements Of Civil Engineering-CV113ATB/CV123ATB

Time : 3 Hours **Maximum Marks : 100**

Instructions to the students

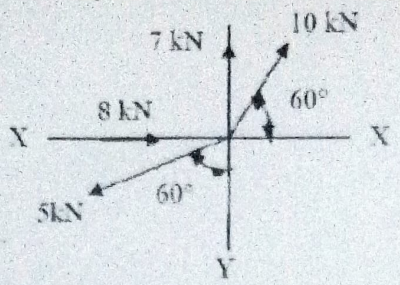
1. Answer all the questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer Five full questions from Part b. In Part b question number 2 is compulsory. Answer any one full question from 3 and four, 5 and 6, 7 and 8, 9 and 10.

Part A

Question No	Question	M	CO	BT
1.1	Define moment of a force	02	1	1
1.2	Find the magnitude of the force P, required to keep the 100 kg mass in the position by strings as shown in the Figure 	02	4	2
1.3	List the physical tests conducted on cement	02	1	1
1.4	Differentiate between point and area sources of air pollution.	02	3	1
1.5	List any two materials that can be recycled in building construction	02	4	2
1.6	Explain the function of the base course in highway pavements.	02	1	1
1.7	Define taxiway	02	3	2
1.8	What is multimodal transportation?	02	1	1
1.9	Define weathering of rocks	02	3	1
1.10	What is automation in construction?	02	4	1

Part B

Question No	Question	M	CO	BT
2a	Justify the need for multidisciplinary knowledge in Civil Engineering practice	08	1	3
2b	Determine the resultant of a force system shown in Figure	08	4	2



3a	Explain the classification of bricks based on quality and their suitability for different types of construction.	08	1	1
3b	Outline various construction chemicals used in civil engineering industry.	08	2	2
	OR			
4a	Differentiate between plain concrete, reinforced concrete, and pre-stressed concrete with the advantages, limitations, and typical areas of application for each type.	08	3	2
4b	Discuss the engineering properties of good quality bricks	08	2	1
5a	Propose a suitable waste collection methods for a residential colony	08	4	3
5b	What are the steps involved in the wastewater treatment process, and how does each step contribute to the overall effectiveness of treating wastewater to make it safe for discharge or reuse.	08	3	2
	OR			
6a	Formulate a plan for designing a smart building based on given parameters such as location, building type, and occupant needs	08	3	3
6b	Explain the different types of disposal methods of municipal solid waste with advantages and disadvantages	08	2	2
7a	Illustrate the structural layers of a flexible pavement and explain the function of each layer.	08	4	3
7b	Explain briefly explain the classification of Ports	08	3	2
	OR			
8a	Discuss a suitable multimodal transportation system for a metropolitan city with heavy traffic congestion during peak hours.	08	4	3
8b	Classify roads based on their function and provide one example for each category.	08	3	2
9a	How can automation and robotics be used in constructing new buildings at RVCE? Explain with examples.	08	4	3
9b	Define soil and explain how soil is formed.	08	3	2
	OR			
10a	Explain briefly the common types of deep foundations used in construction	08	3	3
10b	Discuss the role of Civil Engineers in achieving sustainable development goals	08	1	3