

**AL-105**  
**1<sup>st</sup> MID-SEM Examination, [DEC- 2024]**  
**B.TECH.-I SEM**  
**Civil Engineering and Mechanics**

## **Time-1;30 Hour**

MM-20

Note: Attempt all questions. Internal choice is available for all questions

- 1(a) what do you understand by the term “Levelling”? Explain reciprocal levelling in details.

CO2 (5)

- 1(b) Define surveying and explain its classification in detail **CO2 (5)**

## CO<sub>2</sub> (5)



- ii) WCB and QB
- iv) Local attraction

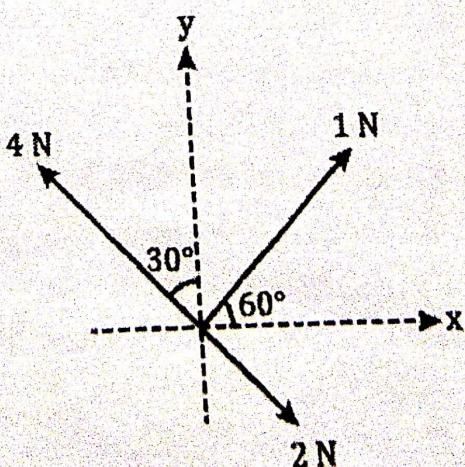
CO<sub>2</sub> (5)

- 2(b) The following staff reading was taken with a level which was shifted after 4<sup>th</sup>, 7<sup>th</sup> and 10<sup>th</sup> reading: 2.235, 1.616, 0.960, 2.090, 2.840, 1.622, 1.930, 1.983, 1.045, 2.150, 2.370, 2.654 m. Assuming the RL of starting point as 350 m. The reading in the form of level book page and calculate the RL's of points. CO2 (5)

**CO<sub>2</sub> (5)**

- 3(a) Determine the direction and magnitude of resultant force for the system of forces shown in fig. CO4 (5)

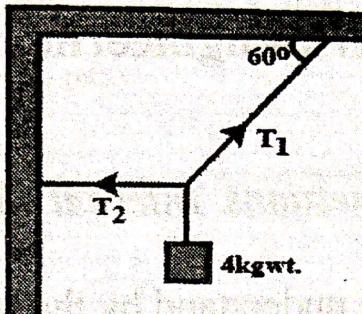
C04 (5)



Or

3(b) Explain different types of trusses. What are the assumptions taken in analysis of truss?  
CO4 (5)

4(a) State and derive of Lami's theorem and solve the problem given below using the theorem  
CO4 (5)



Or

4(b) Find out force in the CD member of the truss loaded shown in F  
CO4 (5)

