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LNCT UNIVERSITY, BHOPAL

Enrolment No. _____

CS-105UC

B.TECH(CS/AI ML) I & II SEMESTER

EXAMINATION [JULY-2024]

CIVIL ENGINEERING & MECHANICS

Maximum Marks: 70

Time Allowed: 3 Hours

Note:- Attempt all questions internal choice are given.

(SECTION - A)

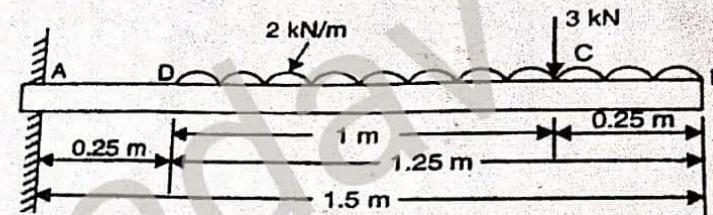
1. Short Answer Type Question (Attempt Any Five) [5x6=30]

- What do you understand by term "Workability of Concrete" Also explain properties of good quality bricks
- List out various building materials used in construction work. Also point out a difference between concrete and mortar.
- List out various instruments used in surveying.
- How Remote sensing is work in the field of Civil Engineering? Explain clearly.
- State and prove Varignon's theorem?
- Draw SFD and BMD for a simply supported beam of span 6m, subjected to a UDL of 5kN/m over its entire length.
- write Short note on i) Smart cities ii) Intelligent Transportation System.

(SECTION-B)

2. Long Answer Type Questions (Attempt Any Four) [4x10=40]

- Enumerate the expression for a moment of Inertia of Triangular lamina about its base.
- Draw the shear force and bending moment diagram of following cantilever beam as shown in fig.



- Eight readings were taken with a level in sequence as follows: 1.585, 1.315, 2.305, 1.225, 1.325, 1.065, 1.815, and 2.325. The level was shifted after the third and sixth readings. The second change point was a bench mark of elevation 175.975. Find the reduced levels of the remaining stations. Use the rise and fall method.
- Explain in brief: i) Foundation and its types b) Types of flooring
- Explain plane table surveying and EDM method of surveying.
- Explain engineering mechanics and its classification. A lamp weight 10 N is suspended from the ceiling by a chain. It is pulled aside by a horizontal cord until the chain makes an angle of 60° with the ceiling. Find the tension in the chain and cord by applying Lami's theorem.