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School of Engineering**B.TECH Civil Engineering
Mid Term Examination - Nov 2023****Duration : 90 Minutes
Max Marks : 50****Sem I - G3UB101B - Engineering Design and Prototyping**General Instructions*Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Outline the importance of dimensioning in any drawing. K2 (2)
- 2) In a technical drawing, what is the purpose of using orthographic projection, and how does it differ from other types of projections, such as perspective projection? K1 (3)
- 3) Outline the primary purpose of including dimension lines in an engineering drawing, and briefly explain how they are different from extension lines? K2 (4)
- 4) Outline some key aspects of digital fabrication. K2 (6)
- 5) How does the use of orthographic projection in engineering drawing help ensure accurate and consistent representation of three-dimensional objects, and identify the key principles and conventions that engineers need to follow when creating orthographic projections? K3 (6)
- 6) Explain the purpose and key principles of orthographic projection in engineering and technical drawing. Provide an example of a complex object and illustrate how orthographic projection can be used to represent it accurately on a 2D plane. Identify and describe any potential challenges or ambiguities that may arise when using orthographic projection in this context K3 (9)
- 7) Compare the key differences between first-angle and third-angle orthographic projection methods in engineering and design, and how does each method impact the interpretation of drawings and communication of spatial information? K4 (8)
- 8) Compare multiview drawing and pictorial drawing techniques in engineering and design. Explain the advantages and disadvantages of each approach, and provide specific examples of when it is more appropriate to use one over the other in a real-world design scenario. K4 (12)

OR

- List out the applications of surface development of product in various industries. K4 (12)