

ADMISSION NUMBER											

School of University Polytechnic

Diploma in Mechanical Engineering
Mid Term Examination - Nov 2023

Duration : 90 Minutes
Max Marks : 50

Sem III - N1DL302B - Thermal Engineering

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

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| 1) | Explain Quasi static process. | K2 (2) |
| 2) | Define Concept of Continuum. | K1 (3) |
| 3) | Explain steady flow energy equation. | K2 (4) |
| 4) | Explain intensive and extensive properties. | K2 (6) |
| 5) | Develop the relation of heat and work for isothermal process. | K3 (6) |
| 6) | A piston and cylinder machine contains a fluid system which passes through a complete cycle of four processes. During cycle sum of all heat transfer is -170kj. The system completes 100cycles/min. Develop the following table- Process Q (kJ/min) W (kJ/min) ?E (kJ/min) 1-2 0 2170 ----- 2-3 21000 0 ----- 3-4 -2100 ----- -36600 4-1 ----- ----- | K3 (9) |
| 7) | Analyze the limitations of first law of thermodynamics. | K4 (8) |
| 8) | Examine the functions of second law of thermodynamics. | K4 (12) |

OR

Inspect that entropy is a property.	K4 (12)
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