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**School of University Polytechnic**

Diploma in Electrical Engineering  
Semester End Examination - Nov 2023

Duration : 180 Minutes  
Max Marks : 100

**Sem V - N1DI507C - Control System**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) Explain the main components of an open loop control system. K1 (2)
- 2) Construct the table of positive and negative feedback control system. K2 (4)
- 3) Compare between a SISO and MIMO control systems. K2 (6)
- 4) Identify the main applications of synchronous motors in industries. K3 (9)
- 5) Solve block reduction in control systems and explain its significance in simplifying complex systems. K3 (9)
- 6) Compare the advantages and disadvantages of PID controllers with other types of controllers. K5 (10)
- 7) Define the time response of a control system and discuss its importance in system performance evaluation. K4 (12)
- 8) Define the time response of a control system. How is it different from the frequency response? K5 (15)
- 9) How does Mason's gain formula handle forward paths, loops, and multiple inputs in control systems? Provide an example to illustrate your answer. K5 (15)
- 10) Discuss the concept of steady-state error in control systems. How can you minimize it for different types of input signals? K6 (18)