



Year and Program: 2018-19

School of Technology

Department of Mechanical Engg.

Course Code: MET204

Course Title: Electrical  
Technology & Electronics

Semester – IV

Day and Date: Thursday,  
23/5/2019

End Semester Examination  
(ESE)

Time: 10.30 am-1.30 pm  
Max Marks: 100

**Instructions:**

- 1) All questions are compulsory.
- 2) Assume suitable data wherever necessary.
- 3) Figures to the right indicate full marks.

Q.1	Solve any Two	Marks	Bloom's Level	CO
a)	Draw the circuit diagram of flux control method of speed control of DC motor. Also write the advantages and disadvantages of it.	07	L <sub>2</sub>	CO1
OR				
a)	Explain dynamic braking and regenerative braking methods of DC motor.	07	L <sub>2</sub>	CO1
b)	Classify the different types of transducers used for temperature measurement? Explain RTD in detail.	08	L <sub>2</sub>	CO2
OR				
b)	Explain following transducers 1. Hall Effect 2. Turbine Flow Meter	08	L <sub>2</sub>	CO2
Q.2	Solve any Two			
a)	Compare slip ring rotor of induction motor with squirrel cage rotor.	07	L <sub>4</sub>	CO3
OR				
a)	Analyze the torque slip characteristics of induction motor.	07	L <sub>4</sub>	CO3
b)	What is Combination and Sequential logic circuit explain in detail? Give the detail classification of combination and sequential circuits?	08	L <sub>4</sub>	CO4
OR				
b)	What is 4 bit magnitude comparator explain it with diagram. Justify it with one example why it is called as magnitude comparator.	08	L <sub>4</sub>	CO4
Q.3	Solve any Two			
a)	Draw and explain the working of 3 point starter of DC motor	08	L <sub>2</sub>	CO1

**ESE**

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|----|--|----|----------------|-----|
| b) | Explain the following transducers:<br>1) Proximity<br>2) Thermocouple      | 08 | L <sub>2</sub> | CO2 |
| c) | Explain construction and working of star delta starter of Induction motor. | 08 | L <sub>2</sub> | CO3 |
| d) | Write a Short Notes on<br>1) Multiplexer and Demultiplexer                 | 08 | L <sub>2</sub> | CO4 |

**Q.4 Solve any Two**

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|----|--|----|----------------|-----|
| a) | Explain four quadrant operation of DC motor                      | 09 | L <sub>2</sub> | CO5 |
| b) | Explain group drive, individual & multimotor drive system.       | 09 | L <sub>2</sub> | CO5 |
| c) | Briefly discuss factors to be considered for selection of motor. | 09 | L <sub>2</sub> | CO5 |

**Q.5 Solve any Two**

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|----|---|----|----------------|-----|
| a) | Which are the different types of Networks? Compare all the network types with its ranges. | 09 | L <sub>3</sub> | CO6 |
| b) | Develop a block schematic of Modem and explain its working in detail                      | 09 | L <sub>3</sub> | CO6 |
| c) | Compare TCP/IP and OSI reference model in detail.   | 09 | L <sub>3</sub> | CO6 |

**Q.6 Solve any Three**

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|----|---|----|----------------|-----|
| a) | Figure out group drive system and individual drive system and compare the same. | 06 | L <sub>3</sub> | CO5 |
| b) | What are the advantages of electrical drive system?                             | 06 | L <sub>3</sub> | CO5 |
| c) | Write a Short Notes on bridges.   | 06 | L <sub>3</sub> | CO6 |
| d) | Construct a diagram of Hub and explain it in detail                             | 06 | L <sub>3</sub> | CO6 |

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