Total No. of Questions : 8]

SEAT No. :

P3143

[Total No. of Pages : 2

[5354]-631

B.E. (Electrical)

INTRODUCTION TO ELECTRICAL TRANSPORTATION SYSTEMS

(2012 Pattern) (Elective - II) (Semester - I)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) *Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data, if necessary.*

Q1) a) Explain Needs and Importance of Mobility? Discuss various applications of Electric Mobility. **[12]**

b) Explain Evolution of Transportation System in Detail. **[8]**

OR

Q2) a) Explain conversions module integrations and their operation. **[8]**

b) Explain various sources of energy used in transportation and their characteristics. **[12]**

Q3) a) Explain BLDC machines, AC machines, DC machines drives with its characteristics. **[12]**

b) How road safety is achieved. **[4]**

OR

Q4) a) Explain the concept of driverless vehicle with a neat Block diagram. **[10]**

b) Need for power converters. **[6]**

Q5) a) Explain in detail one of the configurations of hybrid cars with a neat diagram. **[10]**

b) Compare AC traction with DC traction. **[8]**

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OR

Q6) a) Compare series parallel configuration of hybrid cars. **[8]**

b) Explain typical power train architecture of hybrid cars. **[10]**

Q7) a) Explain the concept of special vehicles in detail. **[8]**

b) Explain the control scheme used in traction type of elevators. **[8]**

OR

Q8) a) Explain control schemes in elevators with new power-electronics controlled drives. **[8]**

b) Explain load characteristics of Elevator systems. **[8]**