

Total No. of Questions : 4]

SEAT No. :

PA-10232

[Total No. of Pages : 1

[6010]-108

**B.E. (Mechanical Engineering) (Insem)**  
**ELECTRICAL AND HYBRID VEHICLE**  
**(2019 Pattern)(Semester - VIII) (Elective - VI) (402051E)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of electronic pocket calculator is allowed.*
- 5) *Assume suitable data, if necessary.*

**Q1) a)** Compare electric vehicles with IC engine vehicles. [7]

b) Write a note on environmental importance of hybrid and electric vehicles. [8]

OR

**Q2) a)** What are the limitations of IC engine vehicles. [6]

b) State advantages and disadvantages of electric vehicles. [5]

c) Classify autonomous vehicle driving. [4]

**Q3) a)** Explain construction and working of Hybrid Electric vehicles. [7]

b) Explain Series Hybrid Electric vehicle. [8]

OR

**Q4) a)** State advantages and disadvantages of Hybrid Electric vehicles. [6]

b) Write a note on fuel efficiency analysis in Hybrid Electric vehicles. [5]

c) Explain the Selection of Modes in control strategies. [4]

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