

Total No. of Questions : 4]

SEAT No. :

P5148

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[6187]-558

T.E. (Mechanical) (Honors) (Insem)

ELECTRIC VEHICLES

E-vehicle Technology

(2019 Pattern) (Semester - I) (302031MJ)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4.
- 2) Neat diagram must be drawn wherever necessary.
- 3) Assume suitable data, if necessary.
- 4) Figures to the right indicate full marks.

**Q1)** a) Explain and justify the suitable connections of battery cells, “series/parallel/combination of both with suitable example? [8]

b) Explain Suspension system in Electric Vehicle with any one type in detail? [6]

OR

**Q2)** a) Differentiate between conventional vehicle vs electric vehicles with suitable sketch? [6]

b) Explain Transmission System in Electric Vehicle with working, advantages and disadvantages? [8]

**Q3)** a) Explain current scenarios and its availability in India for different batteries used in e-vehicles taking suitable example of any four types? [8]

b) Explain the features of Hybridization of Battery with IC Engine? [8]

OR

**Q4)** a) Explain the features of Hybridization of Solar and Battery with advantages and disadvantages? [8]

b) Explain the significance of Ragone plot, with neat graph for electric vehicle and its hybridization? [8]

