

Total No. of Questions : 4]

SEAT No. :

PD112

[Total No. of Pages : 1

[6410]-433

**T.E. (Electrical) (Insem)
ELECTRICAL MOBILITY**

(2019 Pattern) (Semester - II) (Elective - II) (303151B)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Each question carry 15 marks.
- 2) Solve question Q1 or Q2 and Q3 or Q4.
- 3) Figures to the right side indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Explain in brief vehicle performance parameters as applied to electric vehicle. [7]

b) Explain concept and architecture of HEV drive train. [8]

OR

Q2) a) Explain components of Electric Vehicles. [7]

b) Compare the following with respect to hybrid vehicles (Any 4 points). [8]

i) Micro Hybrid

ii) Mild Hybrid

iii) Full Hybrid

iv) Plug in Hybrid

Q3) a) Explain the selection methodology for the energy storage system for electric and hybrid vehicle. [7]

b) Explain Battery based energy storage and its analysis. [8]

OR

Q4) a) Discuss in detail the Hybridization of Ultra capacitor and Battery. [7]

b) Explain the following battery specifications. [8]

i) Nominal Ampere-hour capacity

ii) C-rate

iii) SOC

iv) State of health (SOH)

