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SEAT No. :

PE-217

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[6580]-577

B.E. (Electrical) (Insem.)

ELECTRIC AND HYBRID VEHICLE

(2019 Pattern) (Semester - VII) (403144B) (Elective - IV)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) Solve Q.1 or Q.2 and Q.3 or Q.4.
- 2) Drawn neat diagram must be drawn whenever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Mention and explain different materials used for lithium-ion batteries. [7]

b) State different safety/protection taken for Lithium-ion battery. [8]

OR

Q2) a) Elaborate Nanostructured Electrode Materials used for Li-Ion Batteries with application. [7]

b) Draw & explain block diagram of wireless charging system of EV. [8]

Q3) a) Explain CVCC/CC charging of Li-Ion battery. [8]

b) Write a short note on Solar Powered Charging Stations. [7]

OR

Q4) a) Explain in detail TSCC/CV charging of Li-Ion battery. [8]

b) Explain SoC estimation methods using Kalman filter. [7]

