Total No. of Questions : 4]

SEAT No. : [ ]

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Oct-22/BE/Insem-74

B.E. (Electrical)

ELECTRICAL AND HYBRID VEHICLE

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

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Solve Q. 1 or Q.2 and Q.3 or Q.4.***
2) ***Draw neat diagrams wherever necessary.***

Q1) a) Explain Wireless charging of EV. **[6]**

b) State advantages of Solid-state Battery. **[5]**

c) What materials are used for various lithium-ion batteries. **[4]**

OR

Q2) a) State & explain the importance of Li-ion battery protection needed for EV. **[6]**

b) Write a short note on Nanostructured Electrode Materials used for Li-Ion Batteries. **[5]**

c) State key points of Panasonic 18650 cell. **[4]**

Q3) a) Explain TSCC/CV charging of Li-Ion battery. **[5]**

b) Write a short note on Solar powered charging stations. **[5]**

c) Describe SoC estimation methods using fuzzy logic. **[5]**

OR

Q4) a) Write a short note on Public EV charging stations. **[5]**

b) Explain CVCC/CC charging of Li-Ion battery. **[5]**

c) Explain SoC estimation methods using neural network. **[5]**