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Register No.:

April 2024

*Time - Three hours*  
*(Maximum Marks: 100)*

- [N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.  
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

**PART - A**

1. What is the need for Electric Vehicle?
2. Write about the PHEV.
3. List out the types of EV motors.
4. Write the benefits of ABS.
5. Write the advantages of micro hybrid.
6. Mention the advantages of split power Hybrid Electric Drive Trains.
7. Write short notes on Energy Efficiency in Battery.
8. Define Inverter.
9. What is the action led by the OEM for EV mobility?
10. Mention the supply side incentives to promote EV manufacturing.

[Turn over.....

**PART - B**

11. (a) Explain the air pollution caused by the conventional vehicle.  
(or)  
(b) Explain the working of Fuel cell electric vehicle.
12. (a) Explain about Electrical Propulsion system with suitable diagrams.  
(or)  
(b) Explain with neat diagram construction and working principle of Permanent Magnet BLDC motor drive.
13. (a) Explain with neat block diagram of Fully Hybrid Electric Vehicle.  
(or)  
(b) With block diagram explain control strategies of Hybrid Electric Drive Train.
14. (a) Describe the construction and working principle of Lead acid Battery with neat sketch.  
(or)  
(b) Explain with neat diagram the working principle of DC to DC Power converter.
15. (a) Explain about important proposals in the National Electric Mobility Mission Plan 2020.  
(or)  
(b) Explain the initiatives of research and development and business incubation in the EV policy 2019.

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