

Register No.:

2201

October 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 are the effects of unburnt hydrocarbon to the atmosphere?
2. Differentiate Battery Electric Vehicle (BEV) and Conventional Vehicle.
3. List the types of EV motors.
4. What is hub motor drive system?
5. Write down the advantages of Lithium based batteries.
6. Mention any three effects of EV.
7. Write about the ARAI standards for EV.
8. Write about the need of EV policy.
9. What are the objectives of Tamil Nadu E-Vehicle Policy 2019?
10. What is recycling eco system?

[Turn over.....

PART – B

11. (a) Explain about the conventional drive train system.
(Or)
(b) Explain about Plug-in Hybrid Electric Vehicle (PHEV) with block diagram.
12. (a) Explain about the series and parallel architecture of hybrid electric drive trains with block diagram.
(Or)
(b) Explain the construction and working of Brush Less DC (BLDC) motor drive with a neat sketch.
13. (a) Explain the construction and working of lead acid battery with a neat sketch.
(Or)
(b) Explain any three battery charging techniques with neat sketches.
14. (a) (i) Discuss about the global scenario on EV adoption. (7)
(ii) Discuss about National Electric Mobility Mission Plan 2020. (7)
(Or)
(b) (i) Explain about the Global impacts on electric mobility. (7)
(ii) Discuss about the trends and future developments on EV mobility in India. (7)
15. (a) Discuss about the demand side incentives and supply side incentives offered to promote EV manufacturing in Tamilnadu.
(Or)
(b) (i) Discuss about the revision of transport regulation of EV. (7)
(ii) Explain about the capacity building and charging structure of EV in Tamilnadu. (7)
