1119

April 2025

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 environmental impacts produced by conventional vehicle?

2. Draw the block diagram of BEV.

3. What is traction?

4. Write any three merits of using DC motor drive.

5. Write about the role of BMS.

6. What are the impacts of EV on the economy?

7. What is ARAI standard?

8. Write any three salient features of National Electric Mobility Mission Plan 2020.

9. What are the objectives of E-Vehicle policy?

10. List the supply side incentives to promote EV manufacturing.

[Turn over.....

PART – B

11. (a) Explain the following conventional drive train system:
(i) Rear wheel drive (7)
(ii) All wheel drive (7)

(or)

(b) Explain about Hybrid Electric Vehicle (HEV) with a block diagram.

12. (a) Explain the various architecture of hybrid electric drive trains with line diagram.

(or)

(b) Explain the construction and working of BLDC motor drive with neat sketch.

13. (a) Explain the construction and working of lithium ion battery.

(or)

(b) Discuss the DC fast charging techniques of EV battery.

14. (a) Discuss about the FAME India Phase-I and Phase-II guidelines.

(or)

(b) Explain about the EV eco system. Also write its advantages.

15. (a) Explain the policy measures taken by Government of Tamil nadu to encourage manufacturing and marketing of EV.

(or)

(b) Describe the recycling eco system in battery and EVs.
