

Roll No.

Total No. of Pages : 02

Total No. of Questions : 18

B.Voc. (Automobile Servicing) (Sem.-1)
MODERN ELECTRIC AND HYBRID VEHICLES
Subject Code : 5.GV.04
M.Code : 77016

Time : 3 Hrs.

Max. Marks : 30

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying ONE mark each.**
2. **SECTION-B contains FIVE questions carrying $2\frac{1}{2}$ (Two and Half) marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying FIVE marks each and students has to attempt any TWO questions.**

SECTION-A

Answer Briefly :

1. What do you understand by electric vehicles?
2. What are advantages of hybrid vehicles?
3. Enlist basic components of an electric vehicle.
4. What are drive controllers?
5. What is train topology?
6. What is piezoelectric material?
7. What are brushed motors?
8. What are limitations of hybrid vehicles?
9. What is difference between electric and hybrid electric vehicles?
10. What are components of a drive train?

SECTION-B

11. Discuss social and environmental importance of electric and hybrid vehicles.
12. How does power flows in electric drive train topologies? Explain briefly.
13. Explain power converters.
14. How can we use shock absorbers as vibration energy harvesters?
15. What is RBS? Explain its need.

SECTION-C

16. Explain various electric and hybrid electric drive train topologies.
17. Explain advantages and disadvantages of RBS.
18. Explain different types of DC motors.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.