

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Voc. (Automobile Servicing) (Sem.-4)

ELECTRICAL & HYBRID VEHICLES-II

Subject Code : 6.GV.08

M.Code : 79995

Date of Examination : 24-12-2022

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 2½ (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 have to attempt any TWO questions.**

SECTION-A

- 1. Write briefly :**
- a) Brief about dual-mode of the transmission system.
 - b) Write about drive cycle implications.
 - c) What is sizing the propulsion motor?
 - d) Illustrate battery parameters.
 - f) What do you understand by fuel cell EV?
 - g) Brief about basics of battery.
 - h) Write about NiMH battery.
 - i) Write about flywheel accumulators.
 - j) Illustrate about continuously variable transmissions.

SECTION-B

2. Explain in detail about continuously variable transmission for hybrid vehicles.
3. Describe in detail about the lead-acid battery. And discuss its role in electric vehicles.
4. Discuss about Pem fuel cell vehicles.
5. What are the different methods of energy storage for electrical and hybrid vehicles?
6. Describe the hydraulic pumps/motors used in non-electric hybrid systems.

SECTION-C

7. Explain in detail about grade and cruise targets for hybrid architecture. Why the wheel motors are important for electric vehicles.
8. **Write note about :**
 - i) Hydraulic accumulators and
 - ii) super and ultra capacitors.
9. Discuss in detail about Nickel-Cadmium battery and Lithium-polymer battery. Also, write their advantage and disadvantages.

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.