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DVOC (Level 5)

1st Sem. / Trade: DVOC (Auto.Servicing, AMT)

Subject : Modern Electric & Hybrid Vehicles.

Time : 2 Hrs. M.M. : 50

SECTION-A

Note: Very short questions. Attempt all ten questions. (10x1=10)

Q.1 What is meant by Hybird Electric Vehicle?

Q.2 What is meant by Fuel Cell?

Q.3 Which motor is used in electric train?

Q.4 What is the principle of electric train?

Q.5 How many power sources does a hybrid vehicle have?

Q.6 What happens when hybrid battery fails?

Q.7 What are the main components of electric drives?

Q.8 What is steady state in electric drive?

Q.9 In which motor regenerative braking is not possible?

Q.10 What type of energy does regenerative braking use?

SECTION-B

Note: Short answer type questions. Attempt any six questions out of eight questions. (6x5=30)

Q.11 Discuss the history of hybrid electric vehicles.

Q.12 Mention the advantages of hybrid vehicles?

Q.13 Write a short note on electric and hybrid electric drive train topologies.

Q.14 Explain the concept of electric and hybrid tractions.

Q.15 Draw a general lay out of power flow in a electric vehicle.

Q.16 What is social and environmental importance of electric and hybrid electric vehicles.

Q.17 Mention the requirements of an motor for EV and HEV applications.

Q.18 Write the advantages and disadvantages of regenerative braking system.

SECTION-C

Note: Long answer questions. Attempt any one questions out of two questions. (1x10=10)

Q.19 With a neat sketch explain the constructive and working of a DC Motor.

Q.20 Explain in detail about the regenerative braking system.