

Reg.No. _____



Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : **14EE2024**Sub. Name : **BASICS OF ELECTRIC AND HYBRID VEHICLE**Semester : **2016-17 ODD**Duration : **3hrs**Max. marks : **100**

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Describe the basic techniques for improving Engine Performance, Efficiency, and Emissions	CO1	15
	b.	Briefly explain the concept of Fuel/Air and Air/Fuel Ratios.	CO1	5
(OR)				
2.	a.	Explain the operation, working of 4 stroke spark ignited IC engine in detail.	CO1	15
	b.	List the advantages of hybrid vehicles over conventional vehicles.	CO1	5
3.	a.	Outline the history of electric vehicles in detail	CO1	15
	b.	Explain the concept of regenerative braking.	CO1	5
(OR)				
4.	a.	Describe the method by which energy is obtained from flywheels	CO1	10
	b.	Explain the working of solar car.	CO1	10
5.	a.	With the help of neat block diagrams, explain the series-parallel and complex configuration of hybrid vehicles.	CO2	15
	b.	Draw the block diagram of plug-in hybrid vehicle.	CO2	5
(OR)				
6.	a.	With the help of neat block diagrams, explain the series and parallel configuration of hybrid vehicles. Also mention its advantages and disadvantages	CO2	20
7.	a.	Explain the types of dc motor in detail.	CO2	10
	b.	Explain the components of electric propulsion system in detail.	CO2	10
(OR)				
8.	a.	Explain the construction, working of SRM motor in detail	CO2	15
	b.	Differentiate the features of BLDC and SRM.	CO2	5
<u>Compulsory:</u>				
9.	a.	Explain the significance of lead acid battery in hybrid vehicles and hence mention its working.	CO3	15
	b.	Write the features of supercapacitors.	CO3	5

ALL THE BEST