



# Sanjay Ghodawat University, Kolhapur

2018-19

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

FY M. Tech

EES 503

Dec 2018

Wednesday - 13/12/2018

School of Technology

Automotive Embedded Systems - I

End Semester Examination (ESE)

Semester I

Max Marks: 100

Time: 3 Hrs.

10 to 1.00 PM.

**Instructions for Students:** 1) Use of non-programmable calculator is allowed  
2) All questions are compulsory

		Marks		COs
Q1	a) Illustrate hall effect sensor and capacitive transducer.	8	L2	CO1
	b) Design in detail lighting system of automobile with circuit diagram.	8	L6	CO2
Q2	a) Elaborate engine management system(EMS) for gasoline engine.	8	L6	CO3
	b) How to get prolonged life for lead acid battery with its charging method.	8	L1, L6	CO4
Q3	a) Analyze alkaline batteries in detail.	9	L4	CO4
	b) Elaborate engine management system(EMS) for diesel engine.	9	L6	CO5
OR				
Q4	b) Outline car audio system in detail.	9	L2	CO5
	Solve any Two			
	a) What are the different components of a parking assistance system for an automobile? Explain with circuit diagram.	8	L1, L6	CO5
Q5	b) Evaluate a piezo-electric transducer and their signal conditioning.	8	L5	CO5
	c) Evaluate ZEBRA battery in detail for use in automobile.	8	L5	CO5
	Solve any Two			
Q6	a) Explain fuel cell in detail.	9	L6	CO6
	OR			
	a) Design in detail the charging circuit for an automobile.	9	L6	CO6
	b) What is the use of oxygen sensor in automobile, explain in detail.	8	L1, L6	CO5
	Solve any Two			
	a) Show the crank shaft position sensor with diagram.	8	L2	CO6
	b) Discuss the throttle position sensor with diagram.	9	L6	CO6
	OR			
	b) Analyze working of solenoids.	9	L4	CO6

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