GBCS SCHEME

4 Y 1 6 A V 4 0 3

15AU654

Sixth Semester B.E. Degree Examination, June/July 2019 **Automotive Pollution and Control**

Time: 3 hrs.

VOALORE

Max. Marks: 80

	N	ote: Answer any FIVE full questions, choosing ONE full question from each mo	dule.
		Module-1	
1	a.	Define a driving cycle. Explain the ECE driving cycle using a graph.	(10 Marks)
	b.	What is global warming? What are its effects on the environment?	(06 Marks)
		OR	
2	a.	Explain the various pollutants from gasoline engines and their sources.	(10 Marks)
	b.	Explain the effects of automotive pollutants on (i) Plants (ii) Human health.	(06 Marks)
2		Module-2 What are the various hydrocarbon emissions in I.C. engines? Explain the sources	of unburnt
3	a.	hydrocarbons.	(12 Marks)
	b.	Briefly explain the process of crankcase blow by.	(04 Marks)
		OR	
4	a.	Explain the mechanism of formation of oxides of nitrogen in engines. Discuss the	
	b.	of (i) Fuel-air ratio (ii) burnt gas fraction on the formation of NO. Explain the process of soot formation.	(12 Marks) (04 Marks)
	υ.	Explain the process of soot formation.	(0-11/11/11/15)
		Module-3	
5	a.	Explain the working of positive crankcase ventilation system with neat sketch.	(10 Marks)
	b.	Explain briefly the methods to control NO _x emission.	(06 Marks)
		OR	
6	a.	Discuss the effects of properties of fuel on S.I. Engine emissions.	(10 Marks)
	b.	Discuss the effects of the following on diesel emissions:	
		i) Cetane number ii) Fuel density iii) Additives	(06 Marks)
		Module-4	
7	a.	With a neat sketch, explain three way catalytic converter.	(10 Marks)
	b.	Explain the use of thermal reactor.	(06 Marks)
0	0	Write briefly about physical conditions and composition of exhaust gases in I.C.	engines
8	a.	Write briefly about physical conditions and composition of exhaust gases in 1.5.	(08 Marks)
	b.	Write briefly about: (i) Catalytic poisoning (ii) Diesel trap oxidizer	(08 Marks)
0		Module-5 Final six the fall review a without of compliance (i) Volumetric method (ii) Gravime	tric method
9	a.	Explain the following methods of sampling: (i) Volumetric method (ii) Gravime	(08 Marks)
	b.	Explain sedimentation technique for collection of particulate matter.	(08 Marks)

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OR

10 a. Explain Bosch smoke meter with neat sketch.

(08 Marks)

b. Explain the Orsat analysis of exhaust gases.

(08 Marks)

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

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