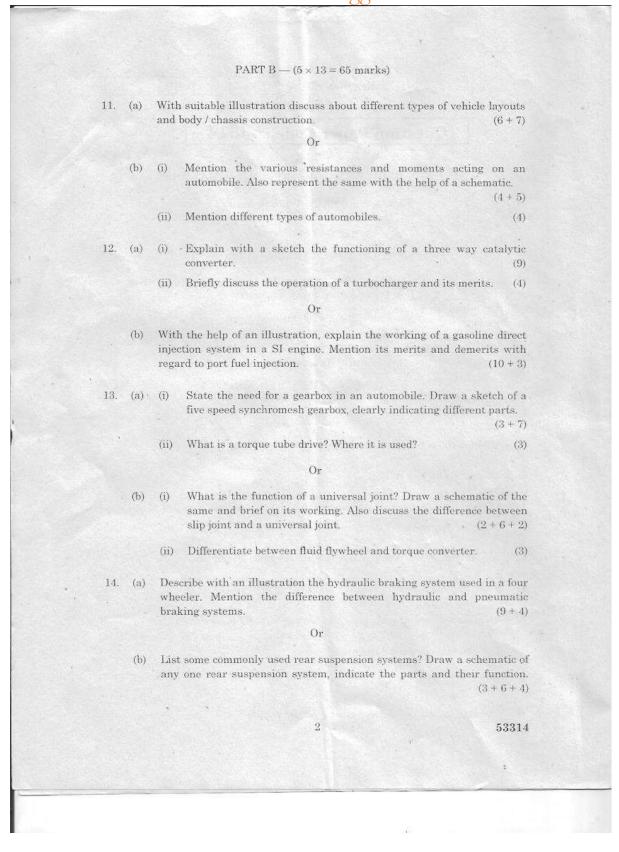
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	Reg. No. :
	Question Paper Code: 53314
	B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.
	Sixth/Seventh/Eighth/Tenth Semester
	Mechanical Engineering
	ME 6602 – AUTOMOBILE ENGINEERING
(Common to Mechanical Engineering (Sandwich), Mechatronics Engineering, Robotics and Automation Engineering)
	(Regulation 2013)
Time	e: Three hours Maximum: 100 marks
	Answer ALL questions.
	PART A — $(10 \times 2 = 20 \text{ marks})$
1.	What is VVT? Mention its advantage.
2.	Mention the necessity of an oil ring in an IC engine.
3.	Decode : TCIS and WGT
4.	Why a catalytic converter in a modern day IC engine is called three way
	catalytic converter.
5.	Are AMT and CVT type gearbox one and the same? Comment.
6.	State the function of an axle.
7.	Mention any two steering geometry parameters and their significance.
8.	List the functions of a suspension system.
9.	What is gasohol?
10.	Mention atleast two demerits of an electric vehicle.

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15.	(a)	(i)	Compare the performance and emission characteristics of a vehicle fuelled with Bio-diesel with that of a neat diesel fuelled vehicle. (10)
		(ii)	Mention the advantages of ethanol as a fuel in a SI engine. (3)
			Or
	(b)	(i)	Explain the necessary engine modifications for a SI engine to be fueled with natural gas. Support your answer with a schematic. (8)
		(ii)	Draw a schematic of a hybrid electric vehicle and mention its merits over an electric vehicle. (5)
			PART C (1 × 15 = 15 marks)
16.	(a)	(i)	State the need for switching to high pressure electronically operated Diesel injection systems? With a schematic explain the operation of a unit injection system. (4+7)
		(ii)	Briefly discuss about ABS and its working. (4)
			Or
	(b)	(i)	State the need for a differential in a vehicle. Draw a schematic of a differential and name the different parts, $(2+5)$
		(ii)	Elaborate on the Bharat stage VI norms. (4)
		(iii)	Show how a steering system is able to turn the wheels with a schematic. (4)
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