Code No: 126EH **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, April - 2018
AUTOMOBILE ENGINEERING
(Common to ME, MCT)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	Indicate the different types of vehicle body.	[2]
b)	What aspects are to be considered in vehicle layout and drivers cabin?	[3]
c)	How an electric horn works?	[2]
d)	Explain briefly the construction and operation of the wind screen wiper.	[3]
e)	What is a damper?	[2]
f)	What is the function of torsion bar?	[3]
g)	Upon what force does the operation of every type of brake depend? Explain?	[2]
h)	What are steering ratio and steering stops?	[3]
i)	What is road noise? How to reduce it?	[2]
j)	What are the effects of carbon monoxide emissions from an automobile?	[3]

PART - B

(50 Marks)

2.a)	Explain briefly the constructional features of the various parts of a car body	
b)	Sketch the mechanical pump and describe its working.	[5+5]
	OR	
3.a)	How carburetors are classified? Explain the construction and operation of a simple Carburetor.	
b)	Explain the working principle of a CRDI with neat sketch.	[5+5]
4.a)	Describe magneto ignition system with a neat sketch.	
b)	What is the function of the spark plug? Explain its constructional features.	[5+5]
	OR	
5.a)	What is meant by firing order? Give the firing order of 4 and 6 cylinder engines.	
b)	What is the purpose of a radiator in an automobile? Explain its construction.	[5+5]
6.a)	Explain the construction of stub axle and wheel mounting.	
b)	What is hotch kiss and torque tube drive?	[5+5]
	OR	
7.a)	What is tractive effort? Why four wheel drive is used in some vehicles?	
b)	Explain Dedion shaft drive mechanism with a neat sketch.	[5+5]

8.a) Sketch and explain Davis steering Mechanism.
b) Describe power steering mechanism with a neat sketch. [5+5]

OR

9.a) Discuss the construction of tandem master cylinder.
b) What is meant by self locking tendency of brakes? What factors helps this to occur? [5+5]

10.a) What causes emissions of hydrocarbons from an automobile? What are its effects?
b) What causes emissions of nitrogen oxides from an automobile? What are its effects? [5+5]

OR

11.a) Discuss the role of hydrogen as an alternative fuel in an IC engine.
b) What are the merits and demerits of LPG as a fuel in IC engine? [5+5]

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