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Code No. : 16110 N(E)

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (CBCS) VI-Semester Main Examinations, May-2019

Introduction to Automobile Engineering
 (Open Elective-VII)

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Q.No.	Stem of the question	M	L	CO	PO
Part-A (10 × 2 = 20 Marks)					
1.	What are the different attachments mounted on the crank shaft?	2	1	1	1
2.	List the functions of the crankcase	2	1	1	1
3.	Why antifreeze liquids are added in cooling system and list them?	2	1	2	3
4.	What is mist lubrication system?	2	1	2	1
5.	What type of clutch is used in a commercial transport vehicle?	2	1	3	1
6.	Mention the functions of the differential	2	1	3	1
7.	Mention the BHARAT Stage IV norms.	2	1	4	7
8.	List out the various pollutants from the CI engines exhaust gases.	2	1	4	1
9.	Define the terms Toe in and Toe out.	2	1	2	1
10.	What is a need of gear box in an automobile	2	1	3	1
Part-B (5 × 10 = 50 Marks)					
11.a)	Distinguish between the SI and CI engines.	3	4	1	1
b)	Explain power train of an automobile with a neat sketch mentioning the functions of the each components of it.	7	2	1	1
12.a)	What is MPFI? Why is it used in present day automobiles?	3	1	2	5
b)	Explain the working principle of the battery ignition system with neat sketch.	7	2	2	1
13.a)	What is synchronizer? Explain why it is not employed for the reverse gear?	3	3	3	3
b)	Draw the layout of 4 wheel hydraulic braking system and explain	7	1	3	1
14.a)	How does PCV valve protect crank case from engine backfiring?	3	1	4	5
b)	Describe the working principle of three way catalytic converter.	7	2	4	5
15.a)	Explain the working of a two stroke petrol engine.	5	2	1	1
b)	Discuss the Mac person strut suspension system with a neat sketch.	5	2	2	1
16.a)	Explain the working of a single plate clutch with a neat sketch	5	2	3	1
b)	Explain the EGR system used in automobiles	5	2	4	7
17.	Answer any <i>two</i> of the following:				
a)	Explain the splash lubrication system with a neat sketch.	5	2	2	1
b)	Explain the working principle of Disc braking system with a neat sketch	5	2	3	5
c)	Draw a steering linkage for a vehicle with independent suspension and describe it.	5	2	2	1

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	93.33%
2	Knowledge on application and analysis (Level-3 & 4)	6.67%
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	0%