

Hall Ticket Number:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Code No. : 16136 AS (F)

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. VI-Semester Advanced Supplementary Examinations, August-2022

Introduction to Automobile Engineering (OE-IV)

Time: 3 hours

Max. Marks: 60

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

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Why a flywheel is necessary in multi cylinder engine?	2	1	1	1
2.	What is an automobile and how it differs from other self-propelled vehicles?	2	2	1	1
3.	List the limitations of carburetors when compare to fuel injection system	2	3	2	1
4.	Explain the functions of thermostat in the engine cooling system.	2	2	2	1
5.	What is positive and negative camber?	2	1	3	1
6.	What are the requirements of suspension system?	2	2	3	1
7.	What is the need of a differential in an automobile?	2	2	4	1
8.	List five factors that contribute to brake effectiveness?	2	3	4	1
9.	List the different types of tyres used in automotive vehicles.	2	1	5	1
10.	List the methods adopted to reduce the pollutants from an automobile.	2	2	5	7
Part-B (5 × 8 = 40 Marks)					
11. a)	Sketch the layout of transmission system and explain the functions of components in it.	5	2	1	1
b)	Distinguish between 2 stroke and 4 stroke engines	3	3	1	1
12. a)	Explain the construction and working principle thermosyphon cooling system.	4	3	2	1
b)	With a suitable sketch explain the working of an electronic ignition system	4	4	2	1
13. a)	With a neat sketch explain the construction and working of Macpherson strut suspension system.	4	3	3	1
b)	Draw a neat sketch of Ackerman steering mechanism and explain its working principle.	4	4	3	1

Contd... 2

14. a)	Explain the working principle of synchromesh gear box system.	4	3	4	1
b)	What are the different types of brakes used in an automobile? Explain the working principle of a drum brakes.	4	3	4	1
15. a)	What are the advantages of tubeless tyres?	3	2	5	5
b)	Draw a neat sketch of EGR system and explain how it is advantageous?	5	3	5	5
16. a)	Distinguish between SI and CI engine.	4	3	1	1
b)	Explain the working of CRDI fuel supply system.	4	3	2	5
17.	Answer any <i>two</i> of the following:				
a)	Draw a neat sketch of double wish bone suspension system and enlist its advantages.	4	3	3	1
b)	Explain the working principle of a single plate clutch with a neat sketch.	4	2	4	1
c)	Enlist the reasons for formation of pollutants in an automobile.	4	2	5	7

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

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	32.5%
iii)	Blooms Taxonomy Level – 3 & 4	47.5%
