R20 Regulation *Subject code: 3E5CA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Regular/Supplementary Examinations, February 2024

AUTOMOBILE ENGINEERING

(Mechanical Engineering)

Maximum Marks: 70 Date:27.02.2024 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

	Part-A	CO	Bloom Tx
All the following questions carry equal marks (10x2M=20 Marks)			
1	List any four components of a chassis.	1	1
2	What are the functions of carburetor?	1	1
3	What are the factors to be considered for comparing magneto and coil ignition system?	2	1
4	What are the limitations of battery ignition system?	2	1
5	What are the features of a good quality clutch?	3	1
6	What are the objectives of suspension system?	3	1
7	List out the different types of steering gear system.	4	1
8	What are the benefits of anti -lock brake system?	4	1
9	Write the composition of LPG and CNG	5	1
10	What is a hybrid vehicle?	5	1
	Part-B		
Answer All the following questions. (5X10M=50Marks)			Bloom Tx level
11	Explain the construction of various frames used in automobiles with neat sketch. [10]	1	2
	OR		
12	Sketch and explain the construction and operation of a simple carburetor. [10]	1	2
13	a) What are the advantages and applications of pump circulation system over thermo-syphon system? [5] b) Explain the various types radiators used in automobiles. [5]	2	2
	OR		
14	Describe the working principle of electronic ignition system. Describe the working principle of electronic ignition system. [10]	2	3
15	Explain the semi centrifugal clutch with neat sketch. [10]	3	3
	OR		
16	a) Explain the working of front independent suspension system with neat sketch. [5]	3	2

	b) What are the objectives and components of suspension system. [5]		
17	Explain the working principles of hydraulic brake with neat sketch. [10]	4	2
	OR		
18	Explain the working principles of Pneumatic braking system with simple sketches. [10]	4	2
19	Discuss the operation of an LPG propelled vehicle with neat sketch. [10]	5	3
	OR		
20	Explain the operation of hydrogen fueled vehicle with neat sketch. [10]	5	3