R18 Regulation *Subject code:* 2P5CD

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech.V Semester Supplementary Examinations, July 2022

AUTOMOBILE ENGINEERING

(ME)

Maximum Marks: 70 Date:06.07.2022 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

All the following questions carry equal marks (10x2M=20 Marks)

1 Explain about the requirements of diesel injection system.
2 State different functions of carburettor.
3 What are different antifreeze solutions available in the market?
4 What is the principle of solenoid switch?
5 List out different types of clutches.
6 Write down the objects of suspension system.
7 What is a tandem master cylinder?
8 What is the condition for correct steering mechanism?
9 What are different energy alternatives?
10 What are the merits and demerits of biomass?

Part-B

Answer All the following questions. (10M X 5=50Marks)

11 a) Discuss about the chassis and body components in automobile.
b) Explain about the different types of air filters. [5+5]

OR

12 a) Explain about the formation of spray in C.I. engine.
b) Discuss about the fuel supply system in S.I. engine. [5+5]

13 a) What do you mean by the term "Ignition"? How is it related with "combustion"?
b) Sketch and explain different types of Ignition systems used in automotive engines. [5+5]

OR

14 Explain in detail the Bendix drive mechanism used in automobile electrical system. [10]

15 a) What are the functions of universal joint and Propeller shaft?
b) Explain about the independent suspension system with neat sketch. [5+5]

OR

16 Discuss the working principles of i) Torque tube drive. ii) Hotchkiss drive. [5+5]

17 a) Sketch and explain various steering geometries.
b) Explain the working principles of Hydraulic braking system with neat sketches. [5+5]

OR

18 a) Discuss about the Davis steering mechanism in the automobiles.
b) Describe about the mechanical brake system. [5+5]

19 a) What are the pollution standards for automobile?
b) Discuss different energy alternatives with their merits and demerits. [5+5]

OR

20 Describe in detail about the multipoint fuel injection for S.I. engines. [10]