Register Number……

B.E. DEGREE EXAMINATIONS: NOV/DEC 2012

Seventh Semester

MECHANICAL ENGINEERING

MEC122: Automobile Engineering

Time: Three Hours **Maximum Marks: 100**

Answer All Questions:-

PART A (10 x 1 = 10 Marks)

1. The crankshafts are usually forged to get
   (A) Minimum friction effects (B) A good mechanical design
   (C) Good grain structure (D) Improved corrosion
2. The substance added to the oil which helps to keep the engine clean is called
   (A) Grease (B) Thickening agent
   (C) Soap (D) Detergent
3. A carburetor is used to supply
   (A) Petrol, air and lubricating oil (B) Air and diesel
   (C) Petrol and air (D) Petrol and lubricating oil
4. The function of distributor in coil ignition system of I.C engines
   (A) To time the spark (B) To distribute power
   (C) To distribute (D) To distribute spark
5. In a vehicle with torque tube drive, the rear suspension spring
   (A) Takes up driving thrust and torque reaction (B) Supports load and takes up end thrust
   (C) Takes up braking thrust and torque reaction (D) Takes up end thrust and torque reaction
6. The overdrive is located between the
   (A) Transmission and the propeller shaft (B) Transmission and wheels
   (C) Differential and wheels (D) Planetary gears and clutch
7. The metal used for the brake drum is
   (A) Aluminum alloy (B) Cast steel
   (C) Cast Alloy (D) Cast iron

8. When the front wheels are closer at the top it is termed as

(A) Toe-in (B) Negative camber

(C) Toe-out (D) Positive camber

9. Which of the following causes the least pollution when burnt?

(A) Petrol (B) Diesel

(C) Coal (D) Natural gas

10. The main constituent of LPG is

(A) Butane (B) Methane

(C) Hydrogen (D) Propane

PART B (10 x 2 = 20 Marks)

11. What are the functions of frame?
12. What is the purpose of supercharging? List out the objective of the turbo charging.
13. What is the function of float chamber in a simple Carburetor?
14. State the purpose of providing regulators.
15. Mention any four important requirements of clutch.
16. Mention the advantages Hotchkiss drive.
17. Write the difference between camber angle and caster angle systems.
18. Why does 'high pedal' produce better braking action than 'low pedaling'?
19. List out the antifreezing compounds.
20. What are the reasons to develop fuel cells?

PART C (5 x 14 = 70 Marks)

21. a) Explain briefly the various types of chassis construction with the help of suitable diagrams. Make a list of various components fixed of the chassis.

(OR)

b) (i) Explain the working of pressure lubrication system and

(ii) Describe the functions of the different parts of the engine.

22. a) Discuss the working of an auxiliary valve carburetor and an auxiliary port carburetor.

(OR)

b) Explain the working principle of Lead Acid Battery? Mention its advantages.

23. a) Explain the working principle of single plate clutch with the help of a neat sketch.

(OR)

b) Describe about Hotchkiss drive and Torque Tube drive with help of suitable sketch?

24. a) Draw a simple diagram to show the layout of a hydraulically operated four wheel brake system and explain its working in detail.

(OR)

b) Write short note on the following:

(i) Tyre inflation (ii) Wheel balance (iii) Tread patterns.

25. a) Explain briefly about the working features of hybrid electric vehicle With help of a layout diagram.

(OR)

b) Explain the following sources as alternate fuels for IC engines bringing out their Advantages and disadvantages?

(i) CNG (ii) LPG (iii) Hydrogen