

- Q.24 Explain briefly the phenomenon of “Diesel Knock”.
- Q.25 Explain briefly supercharging of S.I. engine.
- Q.26 Describe with neat diagram open cycle gas turbine.
- Q.27 What are the main sources of pollutants from diesel engine?
- Q.28 Explain briefly Crank case ventilation and exhaust gas re-circulation systems.
- Q.29 Draw the simplified wiring circuit for lighting system of car.
- Q.30 Explain the wiring circuit for the lighting system.
- Q.31 Explain briefly Anti -lock Braking system.
- Q.32 Explain various processes of psychrometry.
- Q.33 Name the various lines drawn on the psychrometric chart.
- Q.34 Explain simple vapour compression cycle with the help of neat sketch.
- Q.35 Describe the various components of an automobile air-conditioning system.

#### SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 How injection system are classified? Explain in detail.
- Q.37 Discuss the construction and working of alternator.
- Q.38 Explain the working principle of hybrid car in detail.

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#### 5th Sem / Branch : Mech. Engg. (Auto Mobile) Sub. : Automobile Engineering - I

Time : 3Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Petrol engine works on
- a) Diesel Cycle                      b) Otto Cycle
- c) Dual Cycle                        d) None of the above
- Q.2 The compression ratio used in high-speed C.I. engine is of the order of
- a) 4                                        b) 8
- c) 12                                      d) 20
- Q.3 Which of the following is not a type of nozzle?
- a) Pintaux nozzle                      b) Pintle nozzle
- c) Single hole nozzle                d) Surface nozzle
- Q.4 Octane number is measure of
- a) Viscosity of fuel
- b) Auto ignition temperature
- c) Ignition quality
- d) Calorific value of fuel

- Q.5 Degree of supercharging is chiefly limited in I.C. engine by
- Vibrations
  - Shocks
  - Knock
  - Damping
- Q.6 Advantages of CNC are
- Economical
  - Lead free
  - Reduced harmful emission
  - All of the options
- Q.7 The catalytic converter is used to control
- B.P.
  - I.P.
  - Oxides of nitrogen
  - Hydrocarbon
- Q.8 Which of the following types of car batteries are generally used in India?
- Lead acid battery
  - Dey battery
  - Nickel cadmium battery
  - Nickel iron battery
- Q.9 Which factors affects vehicle safety?
- Poor condition of the vehicle
  - Weather
  - Driver
  - All of the above
- Q.10 The value of maximum possible relative humidity is
- 1
  - 2
  - 3
  - None of the above

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Induction swirl results in easier starting if the C.I. engine (True/False)
- Q.12 Compression ignition engine was developed by \_\_\_\_\_
- Q.13 \_\_\_\_\_ Compressor is commonly used for supercharging.
- Q.14 Write the full form of CNG and LPG.
- Q.15 What was the main pollutants emitted by petrol engine?
- Q.16 What is the use of tail lights?
- Q.17 What is purpose of seat belt?
- Q.18 Define relative humidity.
- Q.19 Write the full form of DBT and WBT.
- Q.20 Name the refrigerant which is used in an automobile air conditioning system.

## SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain the difference between diesel engine and petrol engine.
- Q.22 What are the main functions of nozzle?
- Q.23 Explain briefly combustion phenomenon in C.I. Engine.