

32052 - Thermal and Automobile Engineering

1. THERMAL POWER PLANT, STEAM TURBINES&CONDENSER, REFRIGERATION AND AIR CONDITIONING

Part A

1. Define air conditioning?
2. Define refrigerating effect?
3. Define steam condenser?
4. Define condenser vacuum?
5. List the application of refrigeration system?
6. Define refrigeration?
7. List the applications of refrigeration systems?
8. Name the important circuits of tpp?
9. Name the important elements of water and steam circuits?
10. State the functions of electrostatic precipitator?

Part B

1. Define mention the major pollutants from tpp?
2. Define condenser efficiency?
3. Define cop of heat pump?
4. What are the sources of air in condenser?
5. Compare of jet and surface condenser?
6. What is the necessity of compounding and the types of compounding adopted in the turbine?
7. State the functions of scrubber?
8. What is jet condenser?

Part C

1. With neat sketch explain wet scrubber?
2. With neat sketches explain the working of thermal power plant?
3. With neat sketches explain the working of fluidized bed combustion?
4. With neat sketches explain the working of impulse and reaction turbine?
5. With neat sketches explain the working of jet condenser?
6. With neat sketches explain the working of vapor compression system?
7. With neat sketches explain the working of centralized air conditioning?

2. IC ENGINES AND ITS COMPONENTS

Part A

1. What are the types of piston ring?
2. What are the requirements of gasket?
3. Types of cylinder lines?
4. Why are rings provided in piston?
5. Function of piston?
6. Compare dry and wet liner?
7. Define mechanical efficiency?
8. What are the significations of Morse test?
9. Define volumetric efficiency?
10. Define indicated power?

Part B

1. State the function of connecting rod?
2. Write the types of valve mechanism?
3. Function of fly wheel?
4. Compare SI and CI engine?
5. Define indicated thermal efficiency?
6. Define brake thermal efficiency?
7. Types of IC engines?

Part C

1. Write a note on four stroke cycle engine and explain it?
2. Write a note on two stroke petrol engine and explain?
3. With a neat sketch explain the flywheel?
4. With a neat sketch explain the cylinder liner?
5. Write in brief about the types of compression ring and oil ring?
6. With a neat sketch explain the valve and valve mechanism?
7. With a neat sketch explain the connecting rod?
8. Write a note on two stroke diesel engine and explain it?

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3. AUTOMOBILE COOLING SYSTEMS, LUBRICATION SYSTEM AND FEED SYSTEM

Part A

1. Define carburetion?
2. What is CCVTI?
3. Explain the properties of good diesel fuel?
4. Mention the types of injection nozzles?
5. What is mean by SAE?
6. Function of choke valve in carburetor?
7. What is CRDI?
8. Types of engine lubricants?
9. Define detonation?

Part B

1. What is MPFI?
2. What are the functions of governor?
3. What is fuel injector?
4. What is mean by function of governor?
5. Mention the solid lubricants used in IC engines?
6. Principle of venture system in a carburetor?
7. What is the function of secondary filter?
8. Describe lubrication filter system?

Part C

1. Explain the water cooling system?
2. Explain the working of thermo siphon system?
3. Explain the working of pump assisted water cooling system?
4. Explain the working of layout of fuel feed system of petrol engine with neat diagram?
5. Explain the working of Solex carburetor?
6. Explain the working of air cleaner?
7. Describe the design of MPFI system?
8. Describe the full flow by pass filter system?

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4. AUTOMOBILE TRANSMISSION AND POWER TRAINS AND CHASSIS

Part A

1. What is the function of universal joints?
2. What is the purpose of radius rod?
3. What are the various forces acting on the rear axle?
4. Mention any three causes for hard steering?
5. Types of front axle?
6. What is torsion bar?
7. What is the purpose of pressure plate?
8. Types of rear axle?
9. What is the function of slip joint?

Part B

1. Types of springs used in suspension system?
2. What is the purpose of gear box?
3. What is final drive?
4. What are the important wheel alignment factors?
5. What is the necessity of power steering?
6. What is shock absorber?
7. Write the major components of clutch?
8. What is the use of fluid coupling?

Part C

1. Explain the working of power transmission system with neat diagram?
2. Explain the working of single plate clutch with neat diagram?
3. Explain the working of gear box with neat diagram?
4. Describe the differential troubles and its causes?
5. Describe the Ackerman principle of steering?
6. Describe suspension system?

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5. AUTOMOBILE BRAKE SYSTEM, ELECTRIC EQUIPMENTS AND POLLUTION CONTROLS

Part A

1. Types of battery rating?
2. Name the types of stator motor drives?
3. What is catalytic converter?
4. Types of brakes?
5. Compare disc and drum brakes?
6. What is EGR?
7. What is the unit of specific gravity?
8. Write the various test carried out to check the battery?
9. Advantages of disc brake?

Part B

1. Enumerate main components of lead acid battery?
2. Types of spark plug?
3. Define crankcase ventilation?
4. What is alternator?
5. How the pollutants are controlled?
6. Define battery capacity?
7. What is ABS?
8. List the components of drum brake?

Part C

1. Explain the classification of brake? Briefly explain any one
2. Describe the lead acid battery?
3. Discuss about the brake bleeding?
4. Draw the layout of anti locking brake system?
5. Draw the layout of battery coil ignition system their functions?
6. Draw the layout of fluorescent lamp their functions?