

SHANTILAL SHAH ENGINEERING COLLEGE BHAVNAGAR
MECHANICAL ENGINEERING DEPARTMENT
B.E. 2nd SEMESTER
Subject Name: Basic Mechanical Engineering(3110006)

List of Experiments:

1. To study construction and working of various types of boilers.
2. To study construction and working of different boiler mountings and accessories.
3. To study construction and working of two/four stroke petrol/diesel engines
4. To study construction and working of different types of air compressors.
5. To study vapor compression refrigeration cycle of domestic refrigerator and window air conditioner.
6. To understand construction, working and application of clutches, coupling and brakes
7. To understand different arrangement and application of various power transmission drives
8. To study construction and working of different types of air pumps.

ASSIGNMENT

- 1 Give the comparison between Fire-tube and Water tube boilers
- 2 Explain with neat sketch the working of Babcock and Wilcox boilers.
- 3 What is the function of safety valve? Name the different type of safety valves and name the boilers on which they used.
- 4 State the working principle of an IC engine and describe the advantage of IC engine over steam engines.
- 5 Differentiate the S.I engine and C.I. engine.
- 6 Give the merits and demerits of four stroke and two-stroke petrol engine.
- 7 A four cylinder four-stroke cycle petrol engine has 110 mm bore and stroke is 1.3 times bore. It consumes 4Kg of fuel per hour having a calorific value of 41100 KJ/kg. If the engine speed is 800r.p.m., find its indicated thermal efficiency. The mean effective pressure is 0.7 N/mm².
- 8 With a neat sketch describe vapour compression refrigeration.
- 9 Mention different parts of the vapour compression cycle along with their functions.
- 10 What is Prime mover? Explain classification.
- 11 Write and explain Combined Gas law.
- 12 Explain (i) Throttling calorimeter (ii) Separating calorimeter