



15	a) What differences exist between petrol engine and diesel engine. [5M] b) A four stroke petrol engine has a stroke volume of 10 liters. its mean effective pressure is 600 kPa and speed is 300 rpm. Calculate indicated power of the engine. [5M]
OR	
16	a) Explain the principle of fire tube and water tube boilers. [5M] b) Describe construction and working of locomotive boiler. [5M]
17	What are various types of centrifugal pump? Briefly explain any of two of them. [10M]
OR	
18	Single acting single stage reciprocating air compressor of 15kw at 240 RPM takes in air at 1bar and deliver it at 8bar. Index of compression curve is 1.35. Find diameter of cylinder and stroke length at an average piston speed of 180 m/min neglecting clearance. [10M]
19	Explain with neat sketch of types of Mechanical brakes. [10M]
OR	
20	a) Find power transmitted by a belt running over a pulley of 60cm diameter at 200RPM. The coefficient of friction between belt and pulley is 0.25 and angle of lap 160° and maximum tension in belt is 2453N. [5M] b) Differentiate between C.I and steel. [5M]