

- 8 a. Describe briefly performance maps of an IC Engines. (10 Marks)
- b. The air flow to a four cylinder four stroke petrol engine is measured by means of a 7.5 cm diameter Sharp – edged Orifice $C_d = 0.6$. During a test on the engine following data were recorded :
- Bore = 11 cm ; Stroke = 13 cm ; Engine speed = 2250 rev/min ; Brake power = 36 KW
Fuel consumption = 10.5 kg/hr ; Calorific value of fuel = 42000 kJ/kg ,
Pressure drop across the Orifice = 4.1 cm of H_2O .
Atmospheric temperature and pressure are $15^\circ C$ and 1.013 bar. Calculate
- i) Thermal efficiency on b.p, basis ii) Brake mean effective pressure
iii) Volumetric efficiency based on free air. (10 Marks)

Module-5

- 9 a. What do you mean by Dual fuel engine? What are the modification required to use CNG as fuel in Diesel engine? List the advantages of it. (10 Marks)
- b. Discuss the five factors affecting combustion in dual fuel engines. (10 Marks)

OR

- 10 a. What is Multifuel Engine? With suitable graph, explain performance of Alcohol as multifuel in Diesel engine. (10 Marks)
- b. Explain the modification required for fuel system of a multifuel engine. (10 Marks)

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