

Heat supplied is 750 kJ/kg of air. Calculate compression ratio, air standard efficiency, workdone/kg of air, ratio of maximum to minimum pressure.

- b) Discuss briefly Diesel cycle with the help of P-V diagram and derive an expression for the ideal efficiency of diesel cycle. **07**

Q-5 Attempt all questions (14)

- a) What is the difference between governor and flywheel? **02**
b) Write advantage of chain drive over belt drive. Draw neat sketches of simple and compound gear train. **05**
c) Give the classification of Governing system. Explain with neat sketch Hartnell governor. **07**

Q-6 Attempt all questions (14)

- a) Explain with neat sketch the working of Babcock and Wilcox boiler. **07**
b) A six-cylinder 4 stroke I.C. engines to develop 90 kW (Indicated Power) at 800 rpm. **07**
The stroke to bore ratio is 1.5. Assume $\eta_{\text{mech}} = 0.85$. Brake mean effective pressure is 5 bar. Calculate bore and stroke of an engine.

Q-7 Attempt all questions (14)

- a) Write in short about the construction and working of a double acting piston type reciprocating pump. **07**
b) Differentiate between four stroke and two stroke I.C. Engine. **04**
c) Explain the following term: **03**
(i) Manometric head
(ii) Slip
(iii) Free Air Delivery

Q-8 Attempt all questions (14)

- a) Draw a neat diagram of an I.C. Engine and explain the functions of different parts. **07**
b) Discuss in brief about classification of Air compressor. **07**

