

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2017

**APPLIED THERMODYNAMICS**

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Define a thermodynamic system.
2. State second law of thermodynamics.
3. List different thermodynamic cycles.
4. What is brake mean effective pressure (bmep) ?
5. Define LMTD.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. List any six thermodynamic process.
2. What is a polytropic process ? Explain in sixty words.
3. Explain the effect of compression ratio and cut-off ratio on thermal efficiency of a cycle.
4. Draw the typical heat balance sheet of an IC engine and explain salient points.
5. List the classifications of air compressor.
6. Derive an expression for the heat transfer through a plane wall.
7. Explain free convection and forced convection in sixty words.

(5 × 6 = 30)