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### DVOC (Level 4)

2nd Sem. / Trade: Ref. & Air Cond.

Subject : (4.GV.06) Basics of Thermodynamics

Time : 2 Hrs.

M.M. : 50

### SECTION-A

**Note:** Very short questions. Attempt all ten questions.

(10x1=10)

- Q.1 Write one use of steam.
- Q.2 Define boiler efficiency.
- Q.3 Define isothermal process.
- Q.4 Write the function of air compressor.
- Q.5 Define compression ratio.
- Q.6 Define swept volume.
- Q.7 Define isolated system.
- Q.8 Give the statement of first law of thermodynamics.
- Q.9 Define entropy.
- Q.10 Give full form of C.O.P.

### SECTION-B

**Note:** Short answer type questions. Attempt any six questions out of eight questions. (6x5=30)

- Q.11 Differentiate fire tube boiler and water tube boilers.

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Q.12 What is steam turbine? Give their classification.

Q.13 Describe the construction and working of reciprocating compressor.

Q.14 Define steam condenser and explain its objective.

Q.15 Enlist the various parts of IC engine and materials used for making them.

Q.16 Describe and explain quasi-static process.

Q.17 Explain isolated type thermodynamic system in brief.

Q.18 Explain perpetual motion machine of first order.

### SECTION-C

**Note:** Long answer questions. Attempt any one questions out of two questions. (1x10=10)

- Q.19 Explain various operations of an otto cycle in detail.
- Q.20 What are the processes involved in a carnot cycle? Derive an Expression for the thermal efficiency of carnot cycle.

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