

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (ME) (Sem-4)
APPLIED THERMODYNAMICS-II

Subject Code : BTME-404

M.Code : 59132

Date of Examination : 01-06-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

- a) Write the classification of air compressors.
- b) What do you understand by term 'slip factor'.
- c) State principle of jet propulsion.
- d) List the different types of rocket motors.
- e) Name the common fuels used in rocket motors.
- f) Define cycle air rate.
- g) Define blade efficiency.
- h) Write the advantages of multistage compressor.
- i) Define volumetric efficiency.
- j) What is the function of pre-guide vanes?

SECTION-B

2. Explain the effect of prewhirl on the impeller of centrifugal pump.
3. Differentiate between centrifugal and axial flow compressors.
4. Describe 'thermodynamic cycle' for a rotary air compressor.
5. List the methods of improving the efficiency and specific output of a simple gas turbine.
6. Discuss the performance characteristics of different propulsion system.

SECTION-C

7. Describe with a neat sketch the working of a Vane blower compressor and show its p-v diagram. Also mention its-applications.
8. Explain with a neat sketch the working of an axial flow compressor.
9. Discuss the effect of clearance volume on the volumetric efficiency of a reciprocating air-compressor.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.