

Roll No.

3059

**B. Tech. 3rd Semester (ME)
Examination – February, 2022**

BASICS OF MECHANICAL ENGG.

Paper : ESC-ME-211-G

Time : Three Hours]

[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all. Question No. 1 is **compulsory** and attempt *one* question from each Unit.

1. Write about : $2.5 \times 6 = 15$
- (a) Dryness Fraction
 - (b) Enthalpy
 - (c) Coefficient of performance
 - (d) Specific speed of turbine

(e) Hook's Law

(f) CNC System

UNIT – I

2. Write about :

(a) Metal Cutting

8

(b) 2nd Law of thermodynamics.

7

3. Discuss in detail about measurement of dryness fraction by throttling calorimeter. 15

UNIT – II

4. Explain simple refrigeration vapour compression cycle with neat sketch. 15

5. Explain construction and working of Francis turbine with neat sketch. 15

UNIT – III

6. Discuss in detail about types and functioning of clutches. 15

7. Discuss in detail about Elastic constants and their relationships. 15

UNIT – IV

8. What is NC System ? Explain working of NC system with neat diagram. 15

9. Write about :

(a) Introduction of manufacturing system. 10

(b) Advantages of NC systems. 5