

Roll No.

3059

B. Tech. 3rd Semester (ME)

Examination – March, 2021

BASICS OF MECHANICAL ENGINEERING

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, selecting *one* question from each Section. Question No. 1 is **compulsory**. All questions carry equal marks.

- 1. (a) Define are Ton of Refrigeration. $2.5 \times 6 = 15$**
- (b) Define Second Law of Thermodynamics.
- (c) Define Human Comfort.
- (d) Define Possion's Ratio.
- (e) Define the various function of clutch.
- (f) Define specific speed of turbine.

SECTION - A

2. Explain the parts of Lathe Machine with neat sketch and also explain its various operations. 15

3. What is dryness fraction and also explain the measurement of dryness fraction by throttling colorimeter. 15

SECTION - B

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

5. What is the principle of Francis Turbine and also explain its parts and working with neat sketch. 15

SECTION - C

6. Explain the various power transmission devices with neat sketch and also explain the various functions of clutch. 15

7. Derive the relationship between : E, C and K and also explain the Hook's Law. 15

SECTION - D

8. What is Numerical Control Machine and also explain its detail with neat sketch. 15

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9. Explain the main components of CNG machine and also explain the absolute and incremental methods of positioning in CNC machine tool. 15