

Roll No. ....

**3059**

**B. Tech. 3rd Semester (ME)  
Examination – December, 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, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. Write about : 2.5 × 6 = 15
- (a) Metal cutting
  - (b) Human comfort
  - (c) Concept of internal energy
  - (d) Functioning of clutch

3059-2250-(P-3)(Q-9)(22)

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- (e) Poisson's ratio
- (f) Advantages of CNC system

**UNIT - I**

- 2. What is manufacturing process ? Explain working of Lathe machine with neat diagram. 15
- 3. Discuss in detail about thermodynamic properties of steam. 15

**UNIT - II**

- 4. Explain simple refrigeration vapour compression cycle with neat sketch. 15
- 5. Explain construction and working of Pelton turbine with neat sketch. 15

**UNIT - III**

- 6. Discuss :
  - (a) Introduction of power transmission 8
  - (b) Gear drive 7
- 7. Explain the concept and types of stresses and strains with neat diagrams. 15

3059-2250-(P-3)(Q-9)(22) ( 2 )

**UNIT - IV**

- 8. What is NC system ? Explain different components of NC system with their merits and demerits. 15
- 9. Discuss in detail about classification of NC systems with neat diagrams. 15

3059-2250-(P-3)(Q-9)(22) ( 3 )