

**B.Tech. 2nd Semester F-Scheme Examination,  
May-2018  
BASICS OF MECHANICAL ENGG  
Paper-ME-101-F  
(Common for all Branches)**

Time allowed : 3 hours ] [ Maximum marks : 100

*Note : Attempt any five questions from eight questions.  
At least one question from each section. Q. No. 1 is compulsory.*

1. (a) What is CNC machines. 2×10=20
- (b) Write name of three important Properties of steam.
- (c) Define manufacturing system.
- (d) What is Zeroth law of thermodynamics ?
- (e) Name the different Types of stress.
- (f) Define vapour compression refrigeration system.
- (g) What do you mean by Slip in Belt ?
- (h) What are extensive and intensive property ? Give examples.
- (i) Name the different elements of NC machine.
- (j) What is Hydraulic Turbine ?

**Section-A**

2. What do you understand by Entropy ? Discuss First law of thermodynamics. 20

3. What is Saturation temperature ? Derive expression for Enthalpy, entropy and specific volume for Wet and Dry steam. 20

**Section-B**

4. Explain vapour compression refrigeration system in detail. 20
5. (a) What are the difference between Francis and Kaplan turbine ? <http://haryanapapers.com> 10
- (b) Explain the concept of Centrifugal pumps. 10

**Section-C**

6. Explain Length of cross belt drive with the help of figures. 20
7. Derive Bending Equation in details. 20

**Section-D**

8. Explain in detail the Lathe machine. 20
9. Explain the concept of NC machine with its Merits demerits and Applications. 20