

24008

B.Tech. 2nd Semester F. Scheme Examination,

May-2012

BASICS OF MECHANICAL ENGG.

Paper - ME-101-F

Time allowed : 3 hours]

[Maximum marks :100

Note : Question No. 1 is compulsory. Each question carries equal marks. Students have to attempt five questions in total.

1. Write short notes on the following :
 - (a) 2nd Law of thermodynamics
 - (b) Use of steam table
 - (c) Coefficient of performance
 - (d) Advantage of CNC
 - (e) Introduction to manufacturing system. 20
2. (a) Explain the lathe machine tool with neat and clean diagram in detail. 12
(b) Explain the zeroth, 1st law of thermodynamic in detail. 8
3. Write short notes on the following :
 - (a) Thermodynamic properties of steam. 10
 - (b) Measurement of dryness fraction by throttling calorimeter. 10

4. Explain the constructional detail and working of pelton turbine, Francis turbine and Kaplan turbine with neat and clean diagram. 20
5. Explain the simple refrigeration vapour compression cycle in detail. 20
6. (a) Explain the different types of stresses and strains in detail. 8
- (b) Derive the relationship of the elastic constants. 12
7. What do you understand by power transmission? Explain the various methods of power transmission in detail. 20
8. Classify and explain the NC system. 20
9. (a) Explain the components of NC system. 10
- (b) Comparison between NC and CNC system. 10