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**B. Tech. 1st Semester F- Scheme
Examination, December – 2016
BASIC OF MECHANICAL ENGG.
Paper–ME-101-F**

Time allowed : 3 hours] [Maximum marks : 100

Note : Attempt five questions. Question no. 1 is compulsory. Attempt any one question from each section.

1. Explain following :
 - (a) Working principle of lathe machine
 - (b) Functions of draft tube
 - (c) Uses of gear drive
 - (d) Functions of manufacturing system
 - (e) 3rd law of thermodynamics with suitable example.

4×5=20

Section–A

2.
 - (a) What is a shaper ? What are its principle parts. 4
 - (b) Explain sensible heat and latent heat with suitable example. 6
 - (c) An air cycle is completed by two processes. In the compression process, 240kJ of work is done on air while 100kJ of heat is rejected to the surroundings. In the expansion process, air does 320kJ of work. Calculate the quantity of heat added to the cycle. 10

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3. (a) Explain the principle of milling machine. Describe its v g also. 10
(b) Find out an ex on for specific enthalpy of wet steam. 6
(c) Explain zeort of thermodynamics. 4

n-B

4. (a) Determine the of simple vapour compression refrigeration n. 8
(b) What is the pr e of reaction turbine ? Explain working of K. urbine with neat sketch. 8
(c) Explain speci eed for a turbine. 4
5. (a) Define Refrig n and Refrigeration effect. 6
(b) What are the rties of a refrigerant ? 6
(c) Explain the struction and working of reciprocation . 8

n-C

6. (a) Explain gear t ology with neat sketch. 10
(b) What is Pois ratio ? Explain lateral and longitudinal s with suitable example. 6
(c) Explain flexu ding. 4
7. (a) Derive an ex on for relation between three elastic consta 10

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- (b) Explain cone clutch with neat sketch. 6
(c) Differentiate between a fast and loose pulley 4

Section-D

8. What is a manufacturing system ? Describe need of manufacturing system. Explain its elements in detail. 20
9. What is Numerical control system ? What are elements of NC machine ? Describe need of NC system. 20

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