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2007

Reg. No. :

Name :

**Combined First and Second Semester B.Tech. Degree
Examination, May 2011
(2008 Scheme)
08-107 : BASIC MECHANICAL ENGINEERING
(CMNPHERARUFB)**

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions.

1. Explain the concept of reversibility and entropy.
2. What is the significance of Zeroth Law of Thermodynamics ?
3. Explain MPFI System.
4. Draw the P-V and T-S diagram of the Otto cycle and name the processes and write the expression for the efficiency of this cycle.
5. Explain Fluidized bed combustion.
6. What is meant by priming of a pump ? Why is it necessary in a centrifugal pump ?
7. Differentiate between open and closed cycle gas turbines.
8. What is electro chemical machining and how it is different from electroplating ?
9. List the various mechanical drives.
10. What are the elements of CNC machines ?



P.T.O.



PART – B

Answer **any two** questions from **each** Module.

MODULE – I

11. Derive an expression for the air standard efficiency of a diesel cycle. What are the factors on which it depends ?
12. With the help of neat sketches (including P-V and T-S diagram) explain the working of four-stroke diesel engine.
13. With suitable sketches, describe the working of a Cochran Boiler.
(2×10=20 Marks)

MODULE – II

14. With the help of a suitable sketch explain the working of a reciprocating pump.
15. With the help of a line diagram explain the working of a nuclear power plants.
16. With the help of flow and P-h diagram explain the working of a vapour compression refrigeration system.
(2×10=20 Marks)

MODULE – III

17. Explain the different types of gear trains.
 18. Write notes on the following production process.
 - 1) Welding
 - 2) Rolling
 19. Describe the following machining operation.
 - 1) Milling
 - 2) Grinding
(2×10=20 Marks)
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