Combined First and Second Semester B.Tech. Degree
Examination, April 2013
(2008 Scheme)
08-107 – BASIC MECHANICAL ENGINEERING

Time: 3 Hours
Max. Marks : 100

Instruction: Answer all questions of Part – A and two questions from each Module of Part – B.

PART – A

1. Differentiate between Heat and Work.
2. State and explain Zeroth law of thermodynamics.
4. What is priming?
5. What are the advantages of two stroke cycle engines?
6. Sketch a block diagram of the air intake system of a petrol engine.
7. List the fields of application of Air Compressor.
8. What are the advantages and disadvantages of chain drives?
9. Briefly describe Rolling process.
10. Explain the principle of operation of CNC machine.

P.T.O.
PART – B

Module – I

11. Sketch the P-V and T-S diagram of Diesel Cycle and derive an expression for air standard efficiency.

12. Explain the working of a 4-stroke Diesel engine with the help of suitable sketches.

13. With a neat sketch, explain the working of a Cochran boiler.

Module – II

14. With the help of a suitable sketch, explain the working of a reciprocating type air compressor.

15. Sketch the layout of a thermal power plant and explain the functions of various components.

16. Explain the working of a vapour compression system.

Module – III

17. Explain the working of a single plate clutch with a suitable sketch.

18. Describe the following production process (i) Welding (ii) Casting.

19. Describe how taper turning is done in a lathe.