# ANNA UNIVERSITY – 2007

**B.E/B.TECH II SEMESTER DEGREE EXAMINATION**

**BASIC ELECTRICAL ENGINEERING**

**(MARINE ENGINEERING)**

**TIME-3HOUR**
**MARK-100**

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**ANSWER ALL QUESTIONS**

**PART A (10 X 2 = 20 )**

1. What do you mean by combined cycle power plant?

2. List out the special features of modern high pressure boilers.

3. Explain the basic difference between spark ignition and compression ignition.

4. Differentiate between pintle and pintaux type of diesel injection nozzles.

5. Differentiate between a heat pump and a refrigerator.

6. List out the advantages of vapor absorption system over vapor compression refrigeration systems.

7. Differentiate between hot and cold forging processes.

8. Explain the principle of extrusion.

9. List out the various operations that could be performed in an ordinary lathe.

10. What do you mean by Quick return mechanism in a shaper?

**PART B (5 X 16 = 80)**

11. (i) With a simple layout explain the working of a steam turbine power plant. List out the advantages of steam power plants over other power plants.

(ii) With a neat sketch explain the working of a Benson boiler.

12. (a) (i) Differentiate between two stroke and four stroke engines with respect to construction, working and performance.

(ii) With a neat sketch explain the battery coil ignition system used in a SI engine.

Or

(b) (i) With a simple sketch explain the working of a simple carburetor. What are all the limitations of such a simple carburetor?

(ii) List out the primary and secondary objectives of engine lubrication. With a neat sketch explain the pressure lubrication system.

13. (a) (i) With a neat sketch explain the vapor compression refrigeration system? List out the various types of expansion devices used in it.

(ii) With a simple layout explain a typical summer air conditioning unit.

Or

(b) (i) Explain the working of a thermo electric refrigeration system with neat sketches.

(ii) With a skeleton psychrometric chart explain the various air conditioning processes.

14. (a) (i) Explain the process of rolling and drawing with simple sketches.

(ii) Explain the TIG and MIG welding with suitable sketches.

Or

(b) (i) Explain the various types of flames in the gas welding applications.

(ii) Compare the gas welding and arc welding processes with respect to methodology and application.

(iii) Explain the applications of soldering.

15. (a) (i) Explain the various types of rope drives and their relevant applications.

(ii) With simple sketches explain the various processes that can be performed in a milling machine.

Or

(b) (i) Explain the differences between the shaper and a planner with respect to construction and working. Explain the various operations that are performed in a shaper.

(ii) Write short notes about CAM and CIM.