

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Diploma Engineering Semester –IV Examination Dec. - 2011**

Subject code: 345503

Date: 08/12/2011

Subject Name: Plant Equipment Maintenance &amp; Erection

Time: 10.30 am – 1.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered Authentic.

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|-------------|---|-----------|
| <b>Q.1</b>  | (a) Discuss characteristics of good maintenance engineer.   | <b>07</b> |
|             | (b) Explain primary and secondary function of maintenance engineering department                                  | <b>07</b> |
| <b>Q.2</b>  | (a) Differentiate preventive maintenance and breakdown maintenance.   | <b>07</b> |
|             | (b) Give classification of pumps. Explain principle of centrifugal pumps with neat sketch.                        | <b>07</b> |
| <b>OR</b>   |   |           |
|             | (b) Explain principle, advantages & limitations of reciprocating pump with neat sketch.                           | <b>07</b> |
| <b>Q.3</b>  | (a) Give classification of different types of valves. Differentiate globe valve & gate valve.                     | <b>07</b> |
|             | (b) Draw neat sketch of centrifugal compressor & state function of each element.                                  | <b>07</b> |
| <b>OR</b>   |   |           |
| <b>Q.3</b>  | (a) Differentiate Fan & blowers   | <b>07</b> |
|             | (b) Differentiate Centrifugal & reciprocating pumps   | <b>07</b> |
| <b>Q.4</b>  | (a) State importance of IBR & explain procedure of boiler inspection and preservation.                            | <b>07</b> |
|             | (b) State principle of corrosion. Explain corrosion prevention through design.                                    | <b>07</b> |
| <b>OR</b>   |   |           |
| <b>Q. 4</b> | (a) Draw neat sketch and give application of seven types of pipe fittings & factors affecting pipe material.      | <b>07</b> |
|             | (b) Draw seven types of expansion joints and explain EJMA ( Expansion Joint Manufacturing Association ) standards | <b>07</b> |
| <b>Q.5</b>  | (a) Draw schematic diagram of thermal power plant & give application of each unit of thermal power plant.         | <b>07</b> |
|             | (b) Explain meaning of super critical boiler & advantages of P 91 & P 92 material.                                | <b>07</b> |
| <b>OR</b>   |   |           |
| <b>Q.5</b>  | (a) What do you mean by TRIBOLOGY. State causes and remedies of molecular wear & corrosive wear.                  | <b>07</b> |
|             | (b) Explain factors affecting designing of foundation.  | <b>07</b> |

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