

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC - SEMESTER-IV • EXAMINATION – WINTER 2013

Subject Code: X41903**Date: 07-12-2013****Subject Name: Power Plant Engineering****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Draw layout of the Modern Thermal Power Plant and explain main circuit and the path of flow. **07**
(b) Draw and explain Velox boiler with neat sketch. **07**
- Q.2** (a) Explain SodiumZeolite feed water treatment process used in Thermal power plant. **07**
(b) Write short note on different Impurities in water and their effects. **07**
- OR**
- (b) Write short note of effect of different pollutants on the human health and vegetation. **07**
- Q.3** (a) Draw layout of the Diesel Power plant and explain working of different parts in short. **07**
(b) Explain the Unique features of the High pressure boiler. **07**
- OR**
- Q.3** (a) What is Jet condenser ? Explain High level Jet condenser. **07**
(b) The reading taken during test on surface condenser are: Mean condenser temperature =36⁰C, Hot well temperature =30⁰C, condenser vacuum =70 cm of Hg, barometer reading=76cm of Hg, Condensate collected 12 kg/min, cooling water enters at 23⁰C and leaves at 32⁰C, flow bearing 38000 kg/hr, Find (i) mass of air present per cubic metre of condenser, (ii) quality of steam at condenser inlet (iii) vacuum efficiency (iii) condenser efficiency. **07**
- Q.4** (a) Explain different component of Nuclear reactor with neat sketch. **07**
(b) Explain CANDU reactor. **07**
- OR**
- Q.4** (a) What is Boiler Draft? How drafts are classified? **07**
Q.4 (b) Write short note on the Balanced Draft. **07**
- Q.5** (a) Write short note on Inplant handling of Coal. **07**
(b) Explain Low velocity and High velocity type Hydraulic Ash handling system. **07**
- OR**
- Q.5** (a) Explain importance of Load factor and Diversity factor. **07**
(b) Explain briefly (i) Load curve (ii) Load duration curve. **07**
