Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

## B.E SEM-VII Examination-Nov/Dec.-2011

**Subject code: 171804** **Date: 26/11/2011**

**Subject Name: Marine Steam Engineering**

**Time: 10.30 am-01.00 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)** | What is compounding of steam turbine? Explain pressure compounding with neat sketch. | **07** |
| | **(b)** | Write advantages of the steam turbine over steam engine and explain the Reaction turbine with sketch. | **07** |
| **Q.2** | **(a)** | Draw and explain the General layout of modern geared steam turbine. | **07** |
| | **(b)** | Explain in brief the location of Gears, Flexible couplings and Thrust blocks. | **07** |
| | | **OR** | |
| | **(b)** | Explain Reciprocating type steam engine and describe it's parts with sketch. | **07** |
| **Q.3** | **(a)** | Explain the Properties for the selection of material for the Blades, Rotor, Gear and Casing. | **07** |
| | **(b)** | Explain Epicyclic gearing and double reduction gearing used for marine. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain different types of Gear teeth and various arrangement of the marine gearing. | **07** |
| | **(b)** | Write short note about different types of casing for Impulse and Reaction turbine. | **07** |
| **Q.4** | **(a)** | What is function of the steam condenser and explain parallel flow type jet condenser. | **07** |
| | **(b)** | Classify the surface condenser and Explain Evaporative type surface condenser with the neat sketch. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Explain the warming up procedure for the main propulsion turbine. | **07** |
| **Q.4** | **(b)** | Explain the Throttle valve control governing with neat sketch | **07** |
| **Q.5** | **(a)** | Explain the steam conversion takes place in steam turbine with neat sketch. | **07** |
| | **(b)** | Explain different energy losses in the turbine. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Write short note on the heat balance methods for improving the turbine efficiency. | **07** |
| | **(b)** | Explain the Reheat cycle. | **07** |

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