

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B E Sem-VI Examination May 2011

Subject code: 161505

Subject Name: Maintenance & Safety Engineering

Date: 23/05/2011

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) Discuss importance of Maintenance function as applied to Heavy Engineering industries. **07**
(b) Discuss functions of Maintenance department. Take a specific case of Automobile Industry. **07**

- Q.2** (a) Discuss implementation principles of Total Productive Maintenance program. **07**
(b) Discuss impact of wear and service life of equipment in case of ball and roller bearing maintenance. **07**

OR

- (b) Discuss assembly and repair of gears and its wear. **07**

- Q.3** (a) Discuss wear of machines and defects due to wear of machines in case of welding machines. **07**
(b) Discuss Recovery and strengthening of machine elements, and various methods of Recovery. **07**

OR

- Q.3** (a) Discuss method of maintenance and repair of shaft. **07**
(b) Discuss Testing of the restored machines. **07**

- Q.4** (a) Discuss method of maintenance and repair of coupling and clutches. **07**
(b) Discuss accident causation in case of foundry types of industry. **07**

OR

- Q.4** (a) Discuss factors involved in effective planning of maintenance work. **07**
(b) Discuss VAIN analysis with example. **07**

- Q.5** (a) Discuss safety considerations in design of equipment. Take an example of Material Handling Equipment. **07**
(b) Discuss various maintenance cost and replacement economics involved. **07**

OR

- Q.5** (a) Discuss industrial hazards, especially in paint manufacturing industry. **07**
(b) Discuss concept and economics of Maintainability. **07**
