

GUJARAT TECHNOLOGICAL UNIVERSITY
PDDC - SEMESTER-VIII • EXAMINATION – SUMMER • 2015

Subject code: X81904

Date: 13/05/2015

Subject Name: Industrial Safety and Maintenance 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) Explain the importance of product planning . **07**
 (b) List and explain the characteristics of successful product development. **07**
- Q.2** (a) Distinguish Product Development Cycle and Product Life Cycle. **07**
 (b) Explain competitive strategy for new product. **07**
- OR**
- (b) Explain different phases of industrial design process. **07**
- Q.3** (a) What is the role of designer in Value Engineering. **07**
 (b) What is Value ? Explain the reasons for poor value **07**
- OR**
- Q.3** (a) What is FEMA ? How does FEMA help maintenance personnel ? **07**
 (b) What is Total Productive Maintenance ? How does it differ from Total Quality Management ? **07**
- Q.4** (a) What is thermal monitoring ? How temperature sensitive tapes work ? **07**
 (b) Explain condition based maintenance and risk based maintenance in detail. **07**
- OR**
- Q.4** (a) Discuss the design for stiffness and rigidity with reference to machines and machine tools. **07**
 (b) Explain importance of thermal properties of plastics in mechanical design. **07**
- Q.5** (a) Write methods and instruments used for condition monitoring of a gear box used for speed reduction of a prime mover. **07**
 (b) What is wear debris analysis ? Write the names of any three wear debris analysis techniques commonly used. **07**
- OR**
- Q.5** (a) What are the functions of lubrication ? Give the tips on lubrication. **07**
 (b) What is fault tree analysis and root cause analysis ? Explain in detail. **07**
