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Total Number of Pages: 02

M.TECH
IMPE204

2nd Sem M.Tech Regular/ Back Examination – 2014-15

TOTAL PRODUCTIVE MAINTENANCE

BRANCH(S): INDUSTRIAL ENGINEERING

Time: 3 Hours

Max marks: 70

Q.CODE: T434

**Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.**

- Q1 Answer the following questions: (2 x 10)
- a) In brief discuss normal distribution.
 - b) Define reliability centered maintenance.
 - c) How do you calculate parallel system reliability?
 - d) Discuss the objective of preventive maintenance.
 - e) Discuss the major causes of accidents in industries.
 - f) How is zero breakdowns achieved in a factory?
 - g) How important is corrosion control in manufacturing?
 - h) What are the contents of maintenance manuals?
 - i) What are the human factors in maintenance?
 - j) What is 'As good as new' maintenance policy?
- Q2 a) Differentiate between preventive maintenance and breakdown maintenance. (4)
- b) How is preventive maintenance scheduling done? Give an example. (6)
- Q3 a) What are the different techniques used to control corrosion in manufacturing (4)
- b) Discuss in detail 'maintenance planning and scheduling'. (6)
- Q4 a) What do you mean by Mean Time ranging from Failure? (4)
- b) What are the steps in introduction of Total productive maintenance in an organization? Draw the pillars of Total productive maintenance (6)
- Q5 a) Discuss the similarities and differences between Mean time to failure and Mean time to Repair (5)
- b) How the cost analysis of a typical maintenance department is carried out? (5)
- Q6 a) What do you understand by break down maintenance ? Discuss the various features of breakdown maintenance management ? (5)
- b) Write short note on maintenance policy (5)
- Q7 a) Discuss the similarities and differences between TQM and TPM (4)

- b) Identify and briefly explain the different costs associated with maintenance. Discuss the economics of maintenance by plotting different maintenance costs against equipment availability. (6)

Q8 Answer any two (5 x 2)

- a) Do maintenance management principles have any relevance in the service industry?
- b) What do you mean by Re-engineering maintenance process? Discuss.
- c) What is the need for better maintenance? What are the elements of maintenance planning?
- d) What do you understand by the term 'Total Productive Maintenance'? What are the main features of Total Productive Maintenance?