| Roll No. | | | | | | | | |
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## B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, Nov 2013

### PRINTING TECHNOLOGY BRANCH

### VII SEMESTER - (REGULATIONS 2008)

### PT 9027 Printing Machinery Maintenance

Time 3 Hrs.                                                      Max.Marks:100

Answer All Questions

**Part A**                                                      10x2=20 Marks

1. Enumerate the 3 basic components of a production scenario and what is its objective?
2. Draw the cause and effect diagram for poor maintenance.
4. Define productivity and their components.
5. Enumerate the types of maintenance.
6. Illustrate an Equipment and Repair record form.
7. How will you ensure smooth functioning of brake in a reel stand?
8. Find the economic order quantity and reorder point for blankets having a requirement of 52 nos. per annum.
9. What are the methods of lubrication?
10. What is known as criticality assessment?

**Part B**                                                      5x16=80 Marks

11. Discuss the paradigm of production versus production capability in different areas of human activity.

12. a. I.Define reliability and maintainability. II.A printing and packaging unit has a rotary gravure machine and a coater. The coater could be connected offline or online. It is found that the auto splicer fails twice for every 200 reels and rewinding unit fails once for every 200 reels in the printing machine. The coater has a reliability figure of 70%. Find the probability of survival of the above system when they are connected offline and online.

Or

b. What is predictive maintenance? Explain various techniques employed to do this effectively.

13. a.Find the Overall Equipment Effectiveness of a four colour sheetfed machine operating under the following condition. Suggest methods to increase the same.

| Shifts | 3 |
|---|---|
| No. of Makereadies @ 60 mins. each | 5 |
| Max Speed | 15,000 sheets/hr. |
| Operating speed | 11,000 sheets/hr. |
| Actual prints produced | 1,29,000 |
| Sheets wasted | 6450 |

Or

b.Illustrate a sample plan for categorization of equipments for maintenance in a commercial printing establishment.

14. a.What are the primary and secondary objectives of a maintenance department. Explain.

Or

b.Present mathematical models for replacing 10 blankets in a tower type press to justify the best replacement policy form the given data.

| Time in Months | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Failure Probability | Nil | Nil | Nil | 0.05 | 0.15 | 0.30 | 0.25 | 0.15 | 0.10 |

The cost of replacing blankets individually, when they fail, is Rs.10,000/blanket. The cost of replacing all the 10 together is Rs.50, 000. The cost of independent preventive replacement of a blanket is 7,000.

15.a.Enumerate the maintenance check list for web offset machine.

Or

b.Explain the importance of foundation in the proper functioning of equipments and machineries.