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B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, Nov/Dec 2012

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. What is the need for categorizing the machines?
2. Define preventive maintenance.
3. What is the need for maintenance in a printing industry?
4. Name a few solid type lubricants and their applications.
5. What is the need for a test form while commissioning a printing machine?
6. How eccentric bushes are used in a printing machine? What is to be checked in eccentrics?
7. Enumerate the factors to be considered while purchasing new equipment?
8. Define print contrast and its need.
9. Enumerate six big equipment losses.
10. Draw the failure rate curves for a typical electronic, mechanical components.

Part B

5x16=80 Marks

11. Find the Overall Equipment Effectiveness of a cutting and creasing 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

- 12.a. A company has invested Rs.80,00,00,000 in equipment and Rs.40,00,00,000 in facilities. Find out the cost of maintenance per annum and also the cost of maintenance labour with the number of people required.

Or

- b. Illustrate various forms used in a production center for effective maintenance and discuss their utility in a hypothetical situation.

13.a.I.Explain how proper functioning of maintenance department can influence the various elements of cost. ---8.

II. Will you accept the following replacement proposal? Justify.

A gravure cylinder making plant uses a catalyst pad made of platinum costing Rs.15,000. This pad requires to be reactivated every 4 weeks. For this, plant remains stopped for a total of 3Hrs. The loss of profit during this period works out to be Rs.200/hr. There is a proposal to buy a spare set of pad which would be reactivated while the plant is in operation thereby reducing the down time of the plant by 45 mins. The spare pad would tie up the investment of Rs.15,000 @ 25% as return on investment annually if invested in some other venture.---8.

Or

b.I. Illustrate with an example as to how you will make an economic analysis for decision regarding spares and stand-bys? ---8.

II. For a high velocity hot air drying system of a web fed machine, a reciprocating compressor is used to increase the air pressure. Air required for the process carries with it oil from the compressor into the pipe, where gases are mixed and carbon deposits settling in the pipes constitute an explosion hazard. Hence the pipe has to be cleaned once in 2 weeks. Time required for cleaning is 4hrs.& 45mins. The plant produces at the rate of 20,000copies/hr.fetching a profit of Rs.1000/hr. The cost of labour overheads works out to Rs.50/hr. Whereas a new compressor would cost Rs.50,000 and it will reduce the frequency of cleaning to once in 4 weeks. The old compressor can be sold for Rs.10,000. The cost of return on investment on fresh purchase is @25% per annum. For the existing compressor annual cost is calculated to be Rs.2,500. Will you accept the following replacement proposal? Justify. ---8.

14.a.Discuss the factors that could affect the categorization of machines and their weightages? Illustrate a sample plan for categorization of equipment with example.

Or

b.Explain different types of foundation and their relative importance.

15.a.Explain the functions of lubricants. Enumerate the important characteristics and tests for lubricants.

Or

b.Explain the methods of setting the cylinders in an offset machine.