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Manipal Institute of Technology, Manipal

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VII SEMESTER B.TECH (PRINTING TECHNOLOGY) END SEMESTER EXAMINATIONS, NOV/DEC 2015

SUBJECT: PRINT PLANT LAYOUT AND FACILITY DESIGN [PME 403]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ✤ Answer ANY FIVE FULL questions.
- Missing data may be suitable assumed.
- 1A. Explain the terms "Standardization, Simplification and Value-analysis" with reference 03 to materials management system.
- **1B.** Explain any 6 major considerations for the approval of a final plant layout, explain. **03**
- 1C. Briefly explain the advantages and disadvantages between the Single storey and Multi 04 storey buildings?
- 2A. Explain 4 different types of pallet storage racks used in the warehouse of a printing 03 plant.
- **2B.** Explain in detail the consequences of improper workstation design. **03**
- 2C. Which are the 3 major location where industries can be setup. Compare the 04 availability of any 5 major facilities in those locations.
- 3A. What is the difference between "Reinforced concrete", "Precast concrete" and "Wood 03 Frame construction" explain.
- 3B. Explain the Heuristic approach of problem solving and also the importance of Line 03 balancing in the printing plant layout.
- 3C. Explain the factors which should be seriously considered while selecting a fork lift 04 truck. Mention 4 dock accessories and there applications in a print plant layout.
- 4A. With an example, explain how PERT (Project Evaluation and Review Technique) can 03 be utilized to solve problems of a Commercial printing press.





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4B. By considering the details given below, determine the most advantageous location by **03** calculating the rate of return for setting up a plant.

Particulars	Site A	Site B	Site B	
Total	21,000	18,000	17,000	
Investment				
Total Sales	24,000	15,000	16,000	
Total Expenses	25,000	16,000	18,000	

- **4C.** Mention 8 objectives of good plant layout, and write problems caused due to not **04** achieving each objectives.
- **5A.** With an example, explain how CPM (Critical Path Method) can be utilized to solve **03** problems of a Print production process.
- **5B.** If there are three machineries A, B & C are processed in the order 1, 2 and 3. The **03** actual maximum capacity of m/c A is 16000 units/ Shift but due to some technical limitations the Machine A produces only 13000 units/ shift, The machine B can actually produce 56000 units/ Shift but due to unskilled operator the company is able to extract only 51000 units/ Shift from m/c B & the m/c C can actually produce 1,58,000/shift & all machines run for 3 Shifts, Then how do you balance the production line ? Show it with line diagram.
- 5C. Explain in detail the difference between the "Order Point System" and "Material 04 Resource Planning" of material management system.
- **6A.** Explain the measures adopted by the government to control the industrial **03** centralization in a particular location? Explain.
- 6B. Explain the influence of the factors "Material Handling Systems" and the "Production 03 planning and control" on the plant layout design.
- 6C. Mention 8 important procedural steps involved in plant layout development. Explain at 04 least 1 problem for each step, which may occur if the procedures are not followed.