

Code No: 09A80302

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech IV Year II Semester Examinations, April - 2014****PLANT LAYOUT AND MATERIAL HANDLING****(Mechanical Engineering)****Time: 3 Hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) What is plant layout?
- b) What are the various factors which affect plant layout?
- c) Describe various types of layout you have studied.

- 2.a) Write short notes on hoist.
- b) Describe briefly with diagram about the bridge crane.
- c) Effective plant layout is key to solve material handling problems. Comment.

- 3.a) List out the objectives of the material handling methods.
- B Describe briefly the construction and function of roller conveyor.

- 4.a) Describe fixed position layout with schematic diagram and list its advantages.
- b) Briefly describe the following types of industrial truck
 - i) Fork lift truck
 - ii) Crane truck

- 5.a) Write briefly about air operated and hydraulic devices.
- b) Explain safety and energy conservation in material handling equipment.

- 6.a) What factors need to be considered for the selection of the site of a plant?
- b) What are the advantages and disadvantages of urban and rural location?
- c) Explain how chutes can be used for delivering different types of goods to different stations?

7. Explain briefly CRAFT, CORELAP, ALDEP heuristics.

- 8.a) Explain various safety measures during the maintenance for mechanical and chemical industries.
- b) Discuss the application of computer in optimum plant layout.
- c) What care should be taken while designing the feeding equipment to avoid spillage of materials?