

Roll No. ....

**23058**

**M. Tech. 2nd Sem. (Mech. Engg.)  
(Manufacturing & Automation)**

**Examination – May, 2016**

**AUTOMATION IN MANUFACTURING**

**Paper : 908/M-604-A**

***Time : Three Hours ]***

***[ Maximum Marks : 100***

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt any *five* questions. All questions carry equal marks.

1. (a) Define the automation. What are basic elements of an automated system ? 10
- (b) What are different levels of automations ? 10
2. Discuss the principles and design consideration of material handling system. Also explain the elevator and centrifugal type feeders. 20

3. (a) What is fms ? Discuss it's pending ? 10  
(b) Discuss the product design for automatic assembly. 10
4. Explain the following : 20  
(i) Computer process and it's forms.  
(ii) Sensors actuators
5. (a) What are various orientation devices ? Explain in detail. 10  
(b) Explain the GT. 10
6. Discuss the following : 20  
(i) Logic devices.  
(ii) Schimit triggering devices.
7. (a) Define the modeling and simulation. What is the need for the system modeling ? 10  
(b) What is robot ? What are various application of robot for automation ? 10
8. Write short note on the following : 20  
(i) Oscillating force feeder.  
(ii) Product manufacturability.
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