

Roll No. ....

**23058**

**M. Tech. 2nd Sem. (Mech. Engg.)**

**(Manufacturing & Automation)**

**Examination – December, 2014**

**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.

1. (a) What do you mean by automation? Describe its basic elements. 10  
(b) Discuss basic principles and strategies of automation. 10
2. Describe the principle and design considerations of material handling system. What are the functions of storage system ? 20

3. What is group technology ? Why it was developed ?  
What do you understand by classification and coding  
of parts in group technology ? 20
4. State principles of industrial control system. Compare  
continuous and discrete control. Describe any three  
sensors as control system components. 20
5. What is the principle of automatic production ? How  
it is different from manual production ? Describe  
functions of product manufacturability. 20
6. State the principle of operation of pneumatic sensors  
and amplifiers. Develop any two pneumatic circuits  
for automatic die casting machine. 20
7. State the need of modeling in automation. State the  
principle of artificial neural networks in automation.  
Discuss any two robots for their application in  
automation. 20
8. (a) Need of logic devices. 06
- (b) How will you evaluate the automatic  
production ? 07
- (c) Elevator and centrifugal type feeders. 07