

Roll No.

23058

M. Tech. 2nd Semester Mech. Engg. (MTA)

Examination – January, 2012

AUTOMATION IN MANUFACTURING

Paper : 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. Define and explain the types of Automation. What are the basic elements of an automated system ? 20
2. (a) What do you mean by automated flow lines ? Explain. 8
(b) Explain the principle and design consideration of centrifugal type feeder. 12
3. What is the need of group classification ? Explain different approaches of group classification which

- help to switch over from a traditional production system to group technology system ? 20
4. Differentiate between : 10 × 2 = 20
- (a) Continuous verses discrete control,
 - (b) Process Industries verses discrete manufacturing industries.
5. Write short notes on :
- (a) Orientation devices, 6
 - (b) Escapement devices, 6
 - (c) Evaluation of automatic production. 8
6. Explain in detail the Pneumatic circuits for automatic die casting machine. 20
7. What is the need for system modelling ? Explain the Artificial neural networks in Manufacturing automation. 20
8. Write short notes on :
- (a) Schimit triggering devices, 7
 - (b) Cellular Manufacturing, 6
 - (c) Application of robots for automation. 7