

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E SEM-VII Examination-Nov/Dec.-2011

Subject code: 172506

Date: 29/11/2011

Subject Name: Flexible Manufacturing Systems

Time: 10.30 am-01.00 pm

Total marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Define FMS. How it is better than conventional manufacturing? What are its limitations? 07
- (b) Draw general layout and configuration of FMS with each component explanations. 07
- Q.2 (a) Explain features and requirements of unattended machining centre. 07
- (b) What are the key reasons for adopting the GT? How the components are grouped? What are its benefits? 07
- OR
- (b) In which areas of FMS, the tool management can be applied effectively. 07
- Q.3 (a) Describe automated features and capabilities of turning centre. 07
- (b) Explain importance of cleaning and deburring in automated manufacturing. 07
- OR
- Q.3 (a) Describe automated features and capabilities of machining centre. 07
- (b) Explain chip cleaning, removal and recovery. 07
- Q.4 (a) Describe construction and general functions of CMM. 07
- (b) Explain basic components and benefits of AS/RS. 07
- OR
- Q.4 (a) Classify AGVs and explain them in brief. 07
- (b) Classify robots and describe industrial robot. 07
- Q.5 (a) Classify and describe tool strategies in detail. 07
- (b) Explain various phases of FMS installation. 07
- OR
- Q.5 (a) Explain queuing carousels and automatic work changers. 07
- (b) Describe acceptance testing with respect to FMS Implementation. 07
