

**IV B.Tech I Semester Supplementary Examinations, November 2005**  
**MOTION CONTROL DESIGN**  
**(Mechatronics)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Discuss various sorting device systems used in motion control mentioning their specific applicatins limitations and advantages. [16]
2. (a) Discuss various merits of fluid power with reasons. [6]  
(b) Discuss with schematic diagram servo control system for copynglathe. [10]
3. (a) Discuss various steps involved in installation of airlines in industrial pneumat-ics highlighting precautions and its reasons.  
(b) Discuss with schematic diagram explain operation and limitations of pneu-matic cylinders in industrial pneumatics. [8+8]
4. (a) Discuss characterstics of all types of hydraulic actuators used in motion control mentioning their limitations.  
(b) Discuss various popular control system configurations used in motioncontrol. [8+8]
5. (a) Compare and contrast adaptive and fuzzy control techniques used in motion-control.  
(b) What are the problems associated with feed forward control loops. Suggest suitable remedial measures. [8+8]
6. Discuss various application of microprocessor control programmable logic controllers with schemtic diagram and mention its limitation. [16]
7. Write short notes on any TWO:  
(a) Hydraulic control valves  
(b) Fluidics  
(c) Electro hydraulic actuator. [2 x 8=16]
8. Write short notes on any TWO  
(a) Motion control aspects in design  
(b) Applications of analogue computers for control of mechanical equipment  
(c) Various pumps used in hydraulic system. [2 x 8=16]

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