

mechatronics

TE MECA SEM-V SUB:- S&A Date:- 3-12-16,
(CBS48)

Q. P. Code : 838800

[3 Hours]

[Total Marks:80]

- Note: (1) Question no.1 is compulsory
(2) Attempt any three questions from remaining.
(3) Figures to the right indicates full marks
(4) Draw neat labeled diagram wherever required.

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| 1. | (a) Define following static characteristics related to sensors
i)Static error, ii)Precision, iii)Reproducibility,
iv)Threshold, v)Resolution | 05 |
| | (b) What is mean by Solenoid? | 05 |
| | (c) Explain Hall Effect sensors. | 05 |
| | (d) Differentiate Pneumatic and Hydraulic actuating systems | 05 |
| 2. | (a) Which are the factors to be considered while selection of Actuators? | 10 |
| | (b) Explain in short any two methods of temperature measurement. | 10 |
| 3. | (a) Explain selection criterion of sensors for mechatronics system. | 10 |
| | (b) Enlist transducers for displacement measurement. Explain L VDT in detail. | 10 |
| 4. | (a) Explain working of any one type of stepper motor. | 10 |
| | (b) With neat diagram explain working of strain gauge | 10 |
| 5. | (a) Explain induction motor characteristics in brief. | 10 |
| | (b) Explain different components of hydraulic actuating system. | 10 |
| 6. | Write short note an any three | 20 |
| | (a) Analog v/s digital sensors | |
| | (b) Tachometer | |
| | (c) Hall effect sensors | |
| | (d) Servo Amplifier. | |