



ANJUMAN-I-ISLAM'S  
**KALSEKAR TECHNICAL CAMPUS, NEW PANVEL**  
 School of Engineering & Technology

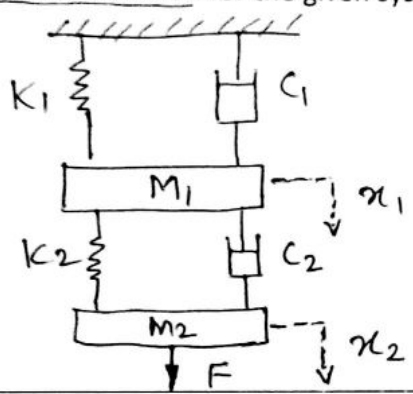
**DEPARTMENT OF MECHANICAL ENGINEERING**

CLASS:- TE ME II	SEM:- V
SUBJECT:- MECHANICAL MEASUREMENTS & CONTROL	DATE:- 25 / 09 / 2016
DURATION:- 60 min.	MARKS:- 20

**CLASS TEST 02**

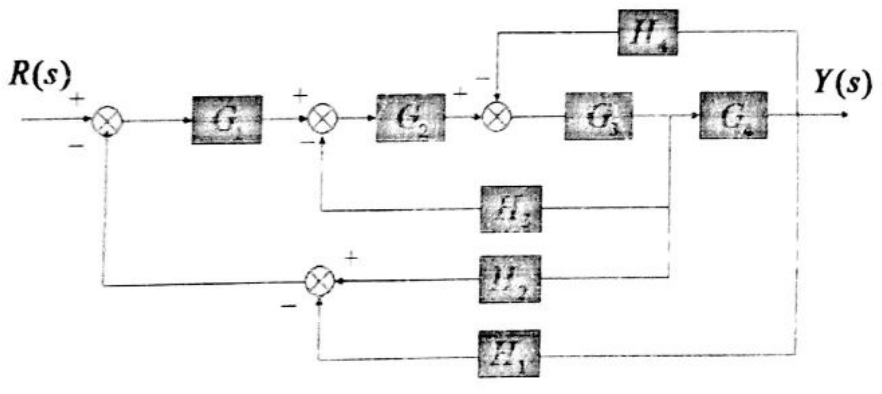
**Q.01 Attempt any one: (08 Marks)**

a) Determine the transfer Function for the given system.  $(X_2(s)/F(s))$



Marks	CO
08	CO 4

b) Determine the transfer function of the given system by using block diagram reduction technique.



Marks	CO
08	CO 4

**Q.02 Attempt any two: (12 Marks)**

- a) Enlist the pressure measuring instruments. Explain the construction and working of optical pyrometers. 06 CO 2,3
- b) The Unity feedback system is characterised by an open loop transfer function  $G(s)=k/(s(s+10))$ . Determine the gain  $k$  so that the system will have a damping ratio of 0.5. For this value of  $K$ , determine  $T_s, M_p, T_p$  for a unit step. 06 CO 4
- c) Obtain the variable model/State space model in phase variable form for the transfer function  $T(s) = (s+3)/(s^3+5s^2+8s+4)$  06 CO 4

$T(s) = (s+3)/(s^3+5s^2+8s+4)$