D.Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY
KASABA BAWADA KOLHAPUR-416006
(An Autonomous Institute)
S. Y. B. Tech-ETC (Semester-III)
END SEMESTER EXAMINATION, OCT/NOV- 2021-22
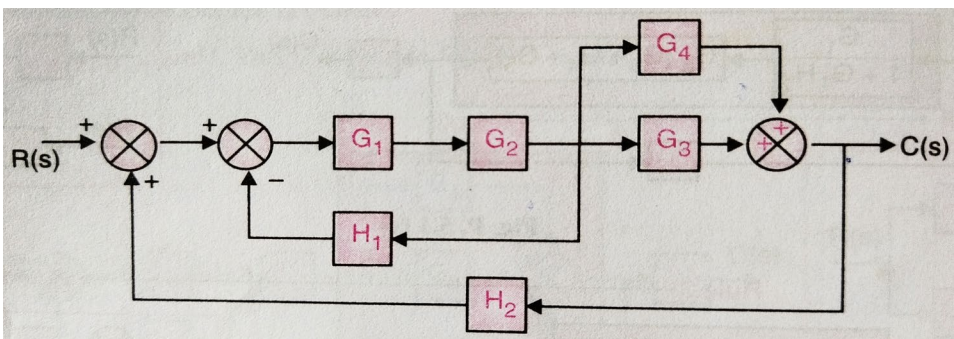COURSE NAME: **Instrumentation and Control System**   COURSE CODE: **201ETL205**

Q. Paper Code:
22SYET205305

Day and Date: Friday, 28/01/2022
Time: 11.00 am to 12.30 Pm

Seat No :
Max. Marks- 50

Instructions:
  i.   *All Questionsare compulsory.*
  ii. *Figure to the right indicate full marks.*
  iii. *Give suitable general Instructions*
  iv. *Any other Course Specific Instructions.*

BT	CO's	Q. No.		Marks
		Q.1	**Attempt the following**	**20**
		a	Define the transducer. Explain the classification of transducer.	7
		b	What is virtual instrumentation? Explain in detail.	7
		c	Explain Spectrum analyzer with block diagram.	6
		Q.2	**Attempt the following**	**15**
		a	Explain Signal flow graph through various Signal flow terms. **OR** Explain Time response of first order system.	7
		b	Reduce block diagram and obtain its transfer function.	8

		Q.3	**Attempt the following**	**15**
		a	Explain BIBO stability in detail. **OR** Explain Hurwitz criterion for stability. Examine the stability of the system whose Characteristics equation is given by $s^3 + s^2 + s + 4 = 0$	7
		b	For the unity feedback system $G(S) = 10 / (S(S+1)(S+5))$ Sketch the Bode plot. Determine Gain Margin and Phase Margin.	8

****