

MODULE III

Topic	Question	mark	Month &Year	Regulation
Discrete control system (sampling, Hold circuit)  ZT properties	Explain the properties of Z-transform and its significance in control system	10	May 13	2009
	Write a short note on Sample and hold	8	Jun 11	2004
	With an example explain the sampled data systems	5	May 12	2009
	Differentiate discrete time system from continuous time system	5	Dec 10	2004
	What is sampling and Obtain a mathematical equation for sampling	7 5	Dec 10 Jun 08	2004 2004
	Explain the cyclic and multirate sampling	5	Jun 11	2004
	Define and explain multirate sampling	5 5	Dec 10 Jun 08	2004 2004
		5	Jun 07	2004
	State and prove time delay property of Z-transform	5	Dec 08	2004
	Explain the properties of Z transform. Prove any two	5	Jun 11	2004
	State and derive all the properties of Z transform	15	Jun 09	2004
	State initial value theorem of Z transform and prove it	5	Jun 07	2004
Prove all the properties of ZT	8 15	Dec 10 Jun 11	2004 2004	
Solution of difference equation	Find the transform of the following discrete time sequence $x(nT) = \begin{cases} \left(\frac{1}{2}\right)^n, & n \geq 0 \\ 3^n, & n < 0 \end{cases}$	8	Dec 08	2004
	Find the solution of the following difference equation using Z-transform $y(nT) + \frac{1}{4}y(nT - T) + \frac{1}{8}y(nT - 2T) = x(n)$ Where $x(n) = \left(\frac{1}{2}\right)^n u(n)$ $y(-1) = 0, y(-2) = 0$	15	Jun 07	2004
	Using ZT solve the solution of the difference equation $y(n) + 3y(n - 1) + 4y(n - 2) = x(n) + 2x(n - 1)$	9	Jun 08	2004
Modeling, Impulse function	Determine the impulse response of the system described by the difference equation and hence test the stability $y(n) + \frac{1}{4}y(n - 1) + \frac{1}{8}y(n - 2) = x(n) + x(n - 1)$	15	Dec 08	2004
	Find the pulse transfer function of the system described by the difference equation using ZT $y(n) + \frac{1}{4}y(n - 1) + \frac{1}{8}y(n - 2) = x(n)$	10	Jun 08	2004
Mapping from S to Z plane	Explain the procedure for mapping between S plane and Z plane	5 6	Jun 09 Jun 07	2004 2004
	With an example explain Bilinear transformation	5 7	May 12 Jun 11	2009 2004

Stability analysis	Discuss in detail about the analysis of discrete time systems	10	May 12	2009
	Explain the stability of the system after bilinear transformation	7	Dec 08	2004
		7	Jun 09	2004
		6	Jun 08	2004
	Using Jury's test, check the stability of the system described by the difference equation $y(nT) - 0.7y(nT - T) - 0.12y(nT - 2T) + x(nT - T) + x(nT - 2T)$	9	Jun 07	2004
	Write a note on Jury's test State and explain Jury's criterion	5	May 12	2009
		5	Jun 09	2004
Apply Routh's Hurwitz criterion to test the stability of the following equation $S^4 + 4S^3 + S^2 + S + 10 = 0$	8	Jun 09	2004	
Explain Jury's criterion for system stability	5	Dec 08	2004	

