Total No. of Questions :8]   [Total No. of Printed Pages :2

Roll No ....

EI/IC-802

B.E. VIII Semester

Examination, June 2017

Digital Control Systems

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Discuss about sampling process and its frequency domain analysis.

   b) Discuss sampling theorem for Band pass signal.

2. a) Discuss data conversion techniques for A/D conversion.

   b) Discuss data conversion techniques for D/A. conversion.

3. a) Define z-transform. Show the Mapping between s-plane and z-plane.

   b) Determine the system function and the unit sample response of the system described by the difference equation.

$$y(n) = \frac{1}{2} y(n-1) + 2x(n)$$

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4. a) Discuss about block diagram reduction for systems interconnected through samplers.

   b) Discuss the procedure of drawing signal flow graph for hybrid systems.

5. a) Discuss the stability study using Routh's test and Jury's test.

   b) Discuss about the steady state error analysis for stable systems.

6. a) Discuss about Jordon transformation.

   b) Discuss about Pseudo Continuous Time (PCT) control system.

7. a) Discuss about state variable representation of discrete time system.

   b) Discuss about system stability analysis.

8. Write short notes on any two of the following:

   a) Root locus analysis.

   b) Correlation between time response and frequency response.

   c) Time response between sampling instants.

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