M. Sc. (ECI) (Sem. X) (CBCS) Examination

April / May - 2018

Digital Signal Processing : Paper - 38

Faculty Code : 003
Subject Code : 0271002

Time : Hours]   [Total Marks : **70**

Instructions :   (1)   All question carry equal marks.

(2)   Figures on right hand side indicate marks.

1   Answer the following in brief :   **14**

(1)   What exactly DSP means to you ?

(2)   What is unit-step function ?

(3)   What are periodic signals ?

(4)   What are the major classification of signals ?

(5)   What are even signals ?

(6)   What is pulse function ?

(7)   Define basic signal.

2   Answer the following : (any two)   **14**

(1)   State the necessary and sufficient conditions for the existence of the Fourier series.

(2)   Explain why Fourier series is used ?

(3)   Explain the different forms of Fourier series.

3 Answer the following : **14**

    (1) What are the different ways of representing a system ?

    (2) With a block diagram explain the process of analog-to-digital conversion.

OR

3 Answer the following : **14**

    (1) What do you understand by odd and even function ?

    (2) Explain convolution.

4 Answer any two : **14**

    (1) Write note on advantage of DSP over ASP.

    (2) Explain in brief: various dimensions of real life signals.

    (3) Explain in brief : LTI System.

5 Answer the following : (any two) **14**

    (1) What type of signals are encountered in real life ?

    (2) Differentiate between discrete-time signals and digital signals.

    (3) Define following terms :

        (a) Signals and Systems

        (b) Unit sample and unit step functions.

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