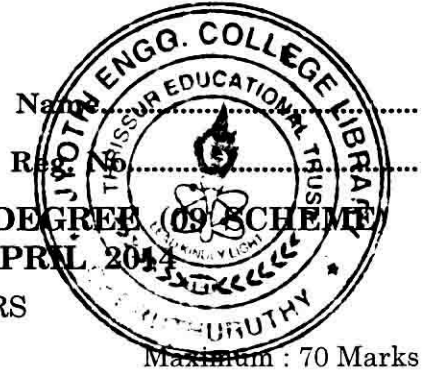


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**SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE (09 SCHEME)
[SUPPLEMENTARY] EXAMINATION, APRIL 2014**

AI 09 705 L06—DSP CONTROLLERS

Time : Three Hours

Maximum : 70 Marks

Part A

*Answer all the questions.
Each question carries 2 marks.*

1. What is DMA ?
2. State the floating point data formats of TMS 320C 64 X processor with examples.
3. What is an IIR filter ? Given an example.
4. What is a compiler ?
5. What is a codec ?

(5 × 2 = 10 marks)

Part B

*Answer any four questions.
Each question carries 5 marks.*

1. Explain about timers of TMS 320 C6X processor.
2. Explain internal memory of TMS 320 C64X processor.
3. Briefly explain about software pipelining.
4. Write a C program to find the linear and circular convolution of any two four point sequences.
5. Write notes on code compressor studio.
6. Briefly explain about interrupts of TMS 320 C6X processor.

(4 × 5 = 20 marks)

Part C

Answer all questions.

1. (a) Explain DMA using TMS 320 C6X processor.

Or

- (b) Explain the addressing modes of TMS 320 C6X processor.

Turn over

2. (a) (i) Write an assembly language program to find the maximum, minimum average, median of a given set of numbers using TMS 320 C64X processor.
- (ii) Write an ALP to find the determinant of a matrix using TMS 320 C64X processor.

Or

- (b) Explain the instruction set of TMS 320 C64X processor.
3. (a) (i) Explain DIT algorithm.
- (ii) Find the DFT of the first four points of the sequence $X(0) = 1$, $X(1) = 2$, $X(2) = 3$, $X(3) = 4$ and $X(n) = 0$ elsewhere, using DIF algorithm.

Or

- (b) (i) Briefly explain about code optimisation technique.
- (ii) Explain the design of a noise cancellation system.
4. (a) Explain DSP application in :

- (i) Voice detection.
- (ii) Voice scrambling.

Or

- (b) Explain DSP application in :
- (i) Image processing.
- (ii) FSK modem.

(4 × 10 = 40 marks)