

**D 90315**

(Pages : 2)

Name.....

Reg. No.....

**SEVENTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE  
EXAMINATION, NOVEMBER 2015**

**AI 09 705 L06—DSP CONTROLLERS**

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.*

*Each question carries 2 marks.*

- I. 1 What are the memory attribute registers in C6X ?  
2 What is a glueless interface ?  
3 State the addressing modes of C64X processor.  
4 What is FFT ?  
5 What are the uses of a scrambler.

(5 × 2 = 10 marks)

**Part B**

*Answer any four questions.*

*Each question carries 5 marks.*

- II. 1 Explain the functional units of C6X processor.  
2 Explain the pipelining operation of C6X processor.  
3 Explain the fixed and floating point formats of C64X processor.  
4 Write notes on adaptive filters.  
5 Explain the working of an assembler.  
6 Write notes on codecs.

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.*

*Each question carries 10 marks.*

- III. 1 Explain the following with respect of C6X processor :  
(a) Timers.  
(b) Serial ports.

Or

Turn over

2 Explain the following with respect to C64X processor :—

- (a) Interrupts.
- (b) DMA.

3 Explain any *six* instructions of C64X processor.

Or

4 Write a C64X ALP to find the sum of following serieses :

- (a)  $1 + 3 + 5 + 7 + \dots + 999$ .
- (b)  $1^2 + 2^2 + 3^2 + \dots + 100^2$ .

5 Define and explain the properties of DFT.

Or

6 Given  $x(n) = \{1, 2, 3, 4, 4, 3, 2, 1\}$  find  $X(k)$  using DIT FFT algorithm.

- 7 (a) Explain a typical DSP development system with all support tools.
- (b) Write notes on code compressor studio.

Or

8 Explain DSP applications in :

- (a) PLL.
- (b) Multirate filters.

(4 × 10 = 40 marks)