

SEM	SET	PAPER CODE	TITLE OF THE PAPER
IV	2013	12PEL4113	PROGRAMMABLE DIGITAL SIGNAL PROCESSOR AND MATLAB

SECTION – A**Answer all the questions:****20 x 1 = 20****Choose the correct answer:**

- Dual port memory has two independent
 - address and data bus
 - address and control bus
 - data and control bus
 - address and multiplexed bus
- VLIW stands for
 - Very Large Instruction Word
 - Very Long Instruction Word
 - Very Large Information Word
 - Very Long Information Word
- In Assembly language syntax all statement must begin with
 - label
 - mnemonic
 - operand list
 - comment
- BPLD instruction is
 - addition instruction
 - move instruction
 - multiplication instruction
 - logical instruction
- Number of ARAU's in C3X family processors is
 - 1
 - 2
 - 3
 - 4

6. Total memory space of C3X processor is
 - a) 2 million
 - b) 4 million
 - c) 8 million
 - d) 16 million
7. MATLAB features a family of add on application specific solution called
 - a) dialog box
 - b) control box
 - c) tool box
 - d) work box
8. _____ in MATLAB library allows us to write 'C' and fortran programs that interact with MATLAB.
 - a) MATLAB External Interface
 - b) MATLAB Internal Interface
 - c) Graphic User Interface
 - d) Cursor User Interface
9. To design high pass filter using MATLAB
 - a) get pass band and stop band first
 - b) Get sampling frequency first
 - c) Feed order of filter first
 - d) Feed pass band Ripple first
10. Which of the following convolution can have different number of count in each input sequence
 - a) Linear
 - b) Circular
 - c) both (a) & (b)
 - d) Neither (a) nor (b)

Fill in the blanks:

11. _____ is an approach for increasing the efficiency of microprocessor.
12. CBSR1 is _____ addressing.
13. The CPU unit of C3X processor consists of _____ buses.
14. MATLAB stands for _____.
15. Upsampling factor should be greater than _____.

State True or False:

16. Bit I/O ports are single bit wide.
17. Instruction MPY multiplies numbers in 2's complement form.
18. To operate C3x device in microprocessor mode MCBL / $\overline{\text{MP}}$ should be logical zero.
19. Control boxes in MATLAB are complete collection of M files.
20. In band stop filter stop band should be less than pass band.

SECTION – B

Answer all the questions:

5 x 4 = 20

21. a. Draw modified Harvard architecture and explain how it differs from Von neumann architecture?

OR

- b. Write a note on TDM serial port.
22. a. Discuss about (i) MADD (ii) BSAR instructions

OR

- b. Write an assembly program to transfer a block of 1000 bytes of data from one block of memory location to another block by using repeat instruction.
23. a. Draw I/O flag structure format of C3X processor and explain.

OR

- b. Discuss the use of cache control bits of C3X processors.

24. a. Explain the use of launch pad of MATLAB.

OR

b. What is a function in MATLAB? Explain.

25. a. Enumerate procedures to design a filter by using MATLAB.

OR

b. What is window? How it is created in MATLAB?

SECTION – C

Answer any FOUR questions:

4 x 15 = 60

26. Draw the internal architecture of TMS320C5X and Explain.

27. Explain various addressing modes of C5X processor.

28. Draw the block diagram of TMS320C3X processor and explain.

29. Explain various desktop tools in MATLAB and also explain how editing / debugging is done?

30. Design a high pass filter by using MATLAB for

pass band frequency = 1500 Hz

stop band frequency = 2000 Hz

sampling frequency = 10,000 Hz
