Total No. of Questions : 8]

SEAT No. :

P5276

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[5355]-662

M.E. (E & TC) (VLSI & Embedded Systems)

RECONFIGURABLE COMPUTING

(2017 Pattern)

Time : 3 Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***Answer any five questions.***
2) ***Neat diagram must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Use of calculator is allowed.***
5) ***Assume suitable data if necessary.***

Q1) a) Give Von Neumann computer architecture and explain its flow for program execution. **[4]**

b) Compare Fine grained & Coarse-Grained fabrics in FPGA. **[4]**

c) Write short note on Application specific processor. **[2]**

Q2) a) Explain with diagram single context and multi-context configuration. **[4]**

b) Explain DSP processor as domain specific processor, give example of DSP processor. **[3]**

c) Explain the significance of Reconfigurable Computing w.r.t. interconnects. **[3]**

Q3) a) With labelled diagram, Explain PAM as Reconfigurable computing platform. **[4]**

b) What is mean by Pipeline and block Reconfigurable architectures. **[3]**

c) Explain FPGA design flow with necessary diagram. **[3]**

P.T.O.

Q4) a) Explain Relocation and Defragmentation w.r.t. RC point of view. **[5]**

b) Explain Integration of RPF into Traditional Computing Systems. Also explain RaPiD architecture. **[5]**

Q5) a) Explain in detail the main components of system on programmable Chip. **[5]**

b) Explain Non-frequently reconfigurable systems and its application. **[5]**

Q6) a) Explain performance parameters of FPGAs and Computational Characteristics. **[4]**

b) Draw diagram and explain the transfer of System from PCB to System on Programmable chip. **[4]**

c) Write note on FPGA design tools. **[2]**

Q7) a) Explain pattern matching as application of Reconfigurable computing. **[5]**

b) Write short note on: Architecture of an adaptive cryptographic system. **[5]**

Q8) a) Elaborate reconfigurable Computing for Software Defined Radio. **[4]**

b) Explain about Compile-time reconfiguration & Run - time reconfiguration. **[3]**

c) What are the communication protocol involved in a network. **[3]**