

Code No: I6804/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb-2018

**HARDWARE SOFTWARE CO-DESIGN****Common to VLSI&ES (68), ES&VLSI (48), VLSID &ES (77), ES &VLSID (81), VLSI (57),  
VLSID (72), VLSI System Design (61), VLSI & Micro Electronics (76)****Time: 3 Hours****Max. Marks: 60**

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*Answer any FIVE Questions  
All Questions Carry Equal Marks*

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| 1. a | List out the different Issues in Hardware software co-design and explain each issue in detail  | 6M  |
| b    | Explain the concept of Generic co-design methodology with one example  | 6M  |
| 2.   | Define Synthesis? List out the different Co-synthesis algorithms used in Hardware software co-design and explain any two algorithms in detail. | 12M |
| 3. a | List out the different techniques in Prototyping and Emulation of co-design and explain each technique in detail                               | 6M  |
| b    | Explain the concept of different Target architectures of co-design in detail   | 6M  |
| 4.   | Draw the internal architecture of Dominated system of 8051 controller and explain its operation in detail                                      | 12M |
| 5. a | What are the different Compilation techniques of Embedded processor and explain each technique in detail                                       | 6M  |
| b    | Explain the different Data dominated systems in Target architecture with examples  | 6M  |
| 6. a | Draw the circuit diagram of co-design computational model and explain its operation.   | 6M  |
| b    | What are the different verification tools used in co-design and explain its importance in detail   | 6M  |
| 7. a | What are the different system level specification languages used in system level and explain each specification in detail                      | 6M  |
| b    | Write short notes on multi language co-simulation of a system level design   | 6M  |
| 8.   | Write short notes on following terms   | 12M |
| (i)  | Cosyma system and Lycos system   |     |
| (ii) | Co-design Models   |     |

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