INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
M.Tech I Semester End Examinations (Supplementary) - July, 2017

Regulation: IARE–R16

HARDWARE AND SOFTWARE CO-DESIGN
(Embedded Systems)

Time: 3 Hours   **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Discuss about allocation and partitioning in detail.   **[7M]**

   (b) Write the differences between RISC and CISC processors along with examples.   **[7M]**

2. (a) Write short notes on heuristic algorithms give an example.   **[7M]**

   (b) Explain scheduling in generic co-design methodology.   **[7M]**

UNIT – II

3. (a) Explain about system communication infrastructure with a neat block diagram. **[7M]**

   (b) Explain about Architecture of 8051 Micro Controller.   **[7M]**

4. (a) Write short notes on architectures for high performance control with a neat block diagram.**[7M]**

   (b) Explain in detail about Aptix Prototyping System.   **[7M]**

UNIT – III

5. (a) Explain the design tools for embedded processors.   **[7M]**

   (b) Explain compiler techniques for specialized architectures in detail.   **[7M]**

6. (a) Write short notes on Modern Embedded architectures.   **[7M]**

   (b) Discuss about Compiler validation in detail.   **[7M]**

UNIT – IV

7. (a) Explain Physical realization of state variables. Give an example.   **[7M]**

   (b) Write short notes on Verification tools of design verification.   **[7M]**

8. (a) Explain Design and Co-design concepts of Hardware and Software Co-design.   **[7M]**

   (b) Explain open verses closed operations of design process.   **[7M]**

UNIT – V

9. (a) Explain about Co-simulation Models with neat sketches. **[7M]**

   (b) Explain about Multi- Language design and specify its classifications based on validation. **[7M]**

10. (a) Briefly explain about Synthesis Intermediate forms. **[7M]**

    (b) write the differences between homogeneous and heterogeneous specification. **[7M]**

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