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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **12EI229** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED PROCESSORS** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | Write the expression to calculate the average access time for the system with a two level cache. | 1 |
| 2. | What are the different levels of memory hierarchy found in recent microprocessors? | 1 |
| 3. | Give an instruction in 8086 to find add two 8 bit numbers. | 1 |
| 4. | What is the memory capacity of 8086 microprocessor? | 1 |
| 5. | Name any two application of ARM processor | 1 |
| 6. | List any two features of ARM processor. | 1 |
| 7. | Write one difference between 3-stage and 5-stage pipelining. | 1 |
| 8. | Give an example for 4 address instruction format. | 1 |
| 9. | What is scatter net? | 1 |
| 10. | Name any two power management modes of VLSI Ruby II Advanced Communication Processor. | 1 |

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| **PART B(5 X 3= 15 MARKS)** | | |
| 11. | Distinguish between page and segment in memory hierarchy. | 3 |
| 12. | What do you mean by L-way set associative mapping. | 3 |
| 13. | What is barrel shifter? | 3 |
| 14. | Write an assembly language program in ARM to add two 8 bit numbers. | 3 |
| 15. | List the four power management modes of Ericsson-VLSI Bluetooth Baseband Controller. | 3 |

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| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. | a. | Name the two basic types of pipelining and discuss various types of pipeline Hazards with examples. | 10 |
| b. | Compare the features of instruction level parallelism architectures. | 5 |
| (OR) | | | |
| 17. |  | Discuss various types of instruction set used in modern processors. | 15 |
| 18. | a. | Draw the internal block diagram of 8086 and explain its functional parts. | 10 |
| b. | With one example discuss the various instruction format of 8086 Mircoprocessor. | 5 |
| (OR) | | | |
| 19. | a. | Discuss virtual model of 8086 microcontroller. | 5 |
| b. | Illustrate with examples, the various addressing modes of 8086. | 10 |
| 20. |  | With neat sketch, explain the architecture of ARM 7 processor and their different operating modes. | 15 |
| (OR) | | | |
| 21. | a. | Discuss the advantages and disadvantages of RISC processor. | 10 |
| b. | Discuss which features of the ARM architecture are not shared by most other RISC processors. | 5 |
| 22. | a. | Describe the importance of 5 stages pipelining in ARM Processor. | 10 |
| b. | Give the significance of cross bar switch barrel shifter in advanced processors. | 5 |
| (OR) | | | |
| 23. |  | Discuss ARM data transfer and branch instructions with examples. | 15 |
| 24. |  | With neat sketch explain the architecture of Ruby II advanced communication controller. | 15 |
| (OR) | | | |
| 25. |  | With neat sketch, discuss the features of VLSI ISDN Subscriber Processor. | 15 |