Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Apr/May – 2017**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14EC2030** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ARM PROCESSORS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | With a neat diagram, explain 3 stage pipeline ARM organization. | CO1 | 10 |
| b. | Write the specifications and features in ARM processor but not in other processor/ controller. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Explain the concept of memory organization in ARM. | CO1 | 10 |
| b. | List out the advantages of RISC over CISC architecture. | CO1 | 10 |
| 3. | a. | Summarize the modes of operation and registers used in ARM processor. | CO2 | 12 |
|  | b. | Construct a basic ARM memory system with SRAM and ROM. | CO1 | 8 |
| (OR) | | | | |
| 4. |  | Explain in detail about ARM instruction set. | CO1 | 20 |
| 5. | a. | Describe the concept of Thumb’s programming model and its related instruction set. | CO1 | 10 |
|  | b. | Explain about the various datatypes supported by ARM processor. | CO1 | 10 |
| (OR) | | | | |
| 6. | a. | Write the syntax in ALP for conditional statements. | CO1 | 10 |
|  | b. | Relate the features of assembly level abstraction and high level languages. | CO1 | 10 |
| 7. | a. | Write about the loops used in programming of ARM. | CO1 | 10 |
|  | b. | List out the registers used in ARM memory management unit. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | Explain about direct mapped cache and fully associative cache in ARM? | CO1 | 12 |
| b. | Explain about ARM protection unit. | CO1 | 8 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Explain how input/ output peripherals are interfaced with ARM core. | CO1 | 10 |
|  | b. | With a neat block diagram,explain one Embedded application using ARM processor. | CO3 | 10 |

ALL THE BEST