**18CS404**

**Hall Ticket Number:**

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| **II/IV B.Tech (Regular/Supplementary)DEGREE EXAMINATION** | | | |
| **August, 2021** | **Computer Science & Engineering** | | |
| **Fourth Semester** | **Computer Organization** | | |
| **Time:** Three Hours | | **Maximum:** 50 Marks | |
| *Answer Question No. 1 Compulsorily.* | | | (10X1 = 10 Marks) |
| *Answer* ***ANY ONE*** *question from each Unit.* | | | (4X10=40 Marks) |

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| 1. | Answer the following: | | (10X1=10 Marks) | |
|  | a) | List different types of computers. | |  |
|  | b) | Perform the subtraction of 1110 and 1100 in 2’s complement form. | |  |
|  | c) | Define the interrupt. | |  |
|  | d) | How to identify the instruction is memory-reference instruction? | |  |
|  | e) | Define effective address. | |  |
|  | f) | What is two address instruction?. Give one example. | |  |
|  | g) | What is the purpose of BSA program control instruction?. | |  |
|  | h) | Differentiate SRAM and DRAM. | |  |
|  | i) | Define miss ratio. | |  |
|  | j) | Give some examples of peripheral devices. | |  |
| **Unit - I** | | | | |
| 2. | a) | Explain briefly about different number systems with examples | | 5 M |
|  | b) | What is register transfer language? Explain the basic symbols used in register transfer. | | 5 M |
|  |  | **(OR)** | |  |
| 3. | a) | Discuss the advantages, dis advantages, and applications of  i) Excess-3 code ii) Gray Code | | 6 M |
|  | b) | Explain the common bus system with four registers. | | 4 M |
|  |  | **Unit - II** | |  |
| 4. | a) | Explain the Input-output and interrupt instructions. | | 5 M |
|  | b) | Explain the design of micro programmed control unit in detail. | | 5 M |
|  |  | **(OR)** | |  |
| 5. | a) | Explain about the instruction cycle. | | 5 M |
|  | b) | Discuss the role of micro program sequencer in reading and executing micro instruction. | | 5 M |
|  |  | **Unit - III** | |  |
| 6. | a) | Explain the basic computer instruction formats. | | 5 M |
|  | b) | Multiple (-7)10 with (3)10 by using Booth’s multiplication. Give the flow table of the  Multiplication**.** | | 5M |
|  |  | **(OR)** | |  |
| 7. |  | Explain briefly about different addressing modes with examples | | 10 M |
|  |  | **Unit - IV** | |  |
| 8. | a) | What is virtual memory? With the help of neat sketch explain the method of virtual to physical address translation. | | 5 M |
|  | b) | Draw the block diagram of a DMA controller and explain its functioning? | | 5 M |
|  |  | **(OR)** | |  |
| 9. |  | Explain briefly about Cache Memory with memory mapping techniques | | 10 M |
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