

Code No: MC1312/R13

MCA I Semester Supplementary Examinations, January-2018
DIGITAL LOGIC AND COMPUTER ORGANIZATION

Time: 3 Hours

Max. Marks: 60

Answer Any FIVE Questions
All Questions Carry Equal Marks

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| 1. a | Convert the following binary number to their equivalent decimal and hexadecimal (base 16) representation. i) 101101.0101 ii) 1010.0111 iii) 10.01 | 6M |
| b | Discuss the Logic Gates with neat sketches. | 6M |
| 2. a | Explain DTL and TTL NAND Gates. | 6M |
| b | Realize the expression $g = a.b.c' + d + f' + a.e'$ using NAND gates. | 6M |
| 3. a | Perform the following arithmetic operations assuming that the decimal digits are coded in 8421 code
i) 24+16 ii) 12+13 iii) 84 - 97 | 6M |
| b | Explain a Four-bit Adder with neat sketch. | 6M |
| 4. a | Define addressing mode? Explain direct addressing mode with example. | 6M |
| b | Write the features of SMAC2. | 6M |
| 5. a | Define ROM? Explain it. | 6M |
| b | What is Interrupt? Explain Single level Interrupt Processing. | 6M |
| 6. | Draw the functional block diagram of Dynamic Random Access Memory and explain it. | 12M |
| 7. a | Define Control Memory? Explain Micro program Sequencer. | 6M |
| b | Write a note on register sets. | 6M |
| 8. | Design the combinatorial circuits with multiplexers. | 12M |
