



Name :
Roll No. :
Invigilator's Signature :

CS/BCA/SEM-2/BCA-201/2013

2013

COMPUTER ARCHITECTURE AND SYSTEM SOFTWARE

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP - A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) Gray code for decimal 12 is
 - a) 1100
 - b) 1011
 - c) 1010
 - d) 0100.
- ii) 9's complement of 46 is
 - a) 54
 - b) 64
 - c) 63
 - d) 53.
- iii) BCD numbers express each decimal digit as
 - a) Byte
 - b) Nibble
 - c) Bit
 - d) ASCII.
- iv) A microprocessor has memory locations from 0000 to 7FFF. Each location stores 1 byte. The memory capacity is
 - a) 8 k byte
 - b) 16 k byte
 - c) 24 k byte
 - d) 32 k byte.



- v) Computer registers are designated by
 - a) capital letters
 - b) both capital and small letters
 - c) numerals
 - d) small letters.
- vi) The transfer operation $P : R_2 \leftarrow R_1$ will be executed only when
 - a) $P = 0$
 - b) $P = 1$
 - c) $P > 0$
 - d) $P < 1$.
- vii) The number of multiplexers required to construct a common bus for 8 registers with 4 bits each is
 - a) 16
 - b) 8
 - c) 4
 - d) 2.
- viii) Both Selective – complement and Clear operations are achieved by micro-operation.
 - a) OR
 - b) AND
 - c) NOT
 - d) XOR.
- ix) A logical shift is one that transfers through the serial input.
 - a) 0
 - b) 1
 - c) either 0 or 1
 - d) both 0 and 1.
- x) A computer instruction is a code.
 - a) hexadecimal
 - b) decimal
 - c) binary
 - d) octal.
- xi) DMA stands for
 - a) Digital Memory Address
 - b) Direct Memory Access
 - c) Digital Memory Array
 - d) Dual Memory Arithmetic.

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10. Explain asynchronous mode of data transfer. Discuss priority interrupt. 10 + 5

11. Write short notes on any *three* of the following : 3 × 5

- a) Stack organization
- b) Memory stack
- c) Addressing mode
- d) Cache memory
- e) First and Second Pass Assembler.

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