

Total No. of printed pages = 3

Co-305/CA&O/3rd Sem/Comp/2017/M

COMPUTER ARCHITECTURE AND ORGANIZATION

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Attempt question No.1 and any *five* from the rest.

2×5=10

1. (a) Represent 345_{10} in BCD.
- (b) What is the function of PC (Program Counter) ?
- (c) What is a Cache memory ?
- (d) What is the function of MAR (Memory Address Register) ?
- (e) What is polling ?

[Turn over

2. (a) Represent -15 in 2's complement representation. 3
- (b) Define with examples fixed and floating point numbers. 4
- (c) Illustrate Booth's algorithm for multiplication and apply it to multiply (-5) and $(+6)$ 5
3. (a) Draw the block diagram of Arithmetic Logic Unit. 2
- (b) What are the different types of instructions in 8085 ? Discuss briefly. 5
- (c) What are the different addressing modes available in 8085 ? Discuss briefly. 5
4. (a) Draw the architecture of 8085 microprocessor and discuss briefly about it. 8
- (b) What do you mean by Cache memory ? Why it is used in computer ? Explain. 4
5. (a) Explain the technique of programmed I/O and memory mapped I/O. 6
- (b) What is DMA and DMA handler ? 6

6. (a) Write brief notes on Impact Printers and Non-Impact Printers. 4

(b) Define : 2×4=8

(i) Sectors

(ii) Tracks

(iii) Cylinder

(iv) Access mechanism of hard disk.

7. Write short notes on any *three* : 4×3=12

(a) Hard wired control unit

(b) Registers of 8085

(c) RISC Processor

(d) Auxilliary storage device

(e) Interrupt.