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BE-258

III Semester B.Tech. (CSE/ISE) Examination,
December - 2019/January - 2020
(CBCS Scheme)

COMPUTER SCIENCE AND ENGINEERING

18CIPC304 : Computer Organization and Architecture

Time : 3 Hours Max. Marks : 100

Instruction : *Answer* ***Q1 compulsory, Q2 or Q3, Q4, Q5 compulsory, Q6 or Q7 and Q8 or Q9.***

15x1=15

Q1. (i) The Program counter is incremented _____.
- (a) After the instruction decoding
- (b) After the IR instruction gets executed
- (c) After the Fetch cycle
- (d) None of the above

(ii) While CPU is executing a program, If an interrupt occurs then it _____.
- (a) It follows the next instruction in the program
- (b) Jumps to instruction in other registers
- (c) Breaks the normal sequence of execution of instructions
- (d) Stops executing the program

(iii) Cache memories are used for _____.

(iv) Virtual memories are used for _____.

(v) RAM stands for _____.

(vi) PROM stands for _____.

(vii) DMA is used for _____.

(viii) ROM is used for _____.

(ix) ISP stands for _____.

P.T.O.

(x) Which Register can interact with the secondary storage ?
(a) MAR (b) PC (c) IR (d) R_0

(xi) When generating physical address from a logical address, the offset is stored in _____.

(xii) Any condition that causes a processor to stall is called as _____.
(a) Hazard (b) Page fault (c) System error (d) None

(xiii) The addressing mode, where user/programmer directly specify the Operand value is _____.
(a) Immediate (b) Direct (c) Definite (d) Relative

(xiv) Pipelining increases _____.
(a) Throughput (b) Time
(c) Space (d) All of the mentioned

(xv) RISC stands for _____.

Q2. (a) Explain the general purpose Digital computer with the block diagram. **8**
(b) What is RTN ? Briefly explain addressing modes with RTN. **9**

OR

Q3. (a) Discuss the Computer Architect's view. **8**
(b) Give the informal description of branch and shift instructions with examples. **9**

Q4. (a) Explain the Floating point arithmetic circuitry with a neat diagram. **9**
(b) Write and explain the algorithm to convert hexadecimal number to decimal. **8**

Q5. (a) Define the following : **6**
(i) Access time (ii) Cycle time (iii) Block size
(iv) Bandwidth (v) Latency (vi) Block access time
(b) Write a note on virtual memories. **11**

Q6. (a) What is Pipelining ? Explain. **6**
(b) Explain superscalar processor with its operations. **6**
(c) What is Data hazard ? Explain. **5**

OR

Q7. (a) Explain the fundamental concepts of processor design. 8

(b) Differentiate between Hardwired and Microprogrammed control unit. 9

Q8. (a) What is Bus ? Explain multibus organization. 6

(b) Explain DMA with the block diagram. 6

(c) Write the printer characteristics. 5

OR

Q9. (a) List various types of printers. 5

(b) Explain the key concepts of visual displays. 6

(c) Write a note on input devices. 6

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