

K. J. SOMAIYA INSTITUTE OF MANAGEMENT STUDIES AND RESEARCH
MCA SEM- I Examination November 2017

Subject: - Computer Organization and Architecture

27/11/2017

Maximum Marks: 50

Note: Q1 is Compulsory.

Duration: 3 hrs

Solve any 4 from Questions 2 to 7.

- Q1. a.** Explain Flynn's classification of parallel processors in detail. 5
- b.** Describe micro instruction. Write micro instructions for fetch and indirect cycles. 5
- Q2. a.** Simplify using K-map $f(A,B,C,D)=\Sigma(1,3,5,8,9,11,15)+d(2,13)$. Draw the logic gate diagram. 5
- b.** Simplify the following Boolean expression. Write the rules used in each step of simplification. 2
- $(A + C)(\overline{AD} + \overline{AD}) + AC + C$
- c.** Express the Boolean function $F= xy'+yz'$ as minterms and maxterms. 3
- Q3. a.** Explain the data flow in CPU registers during instruction cycle with indirect addressing with suitable diagram. 5
- b.** Explain encoders and decoders with logic circuit diagram. 5
- Q4. a.** Explain the RAID memory organization in detail. 5
- b.** Describe cache read operation with flow diagram. 5
- Q5. a.** Describe the execution of multiple interrupts with suitable example 5
- b.** Explain different addressing modes with example. 5
- Q6. a.** Describe output dependency and anti-dependency with suitable examples. 5
- b.** Differentiate between instruction level and machine level parallelism. 5
- Q7. a.** Write notes on micro programmed control unit. 5
- b.** Explain Flynn's classification of parallel processors in detail. 5

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Program: MCA

All the Best!!!