S.E. (CSE) (Semester - III) Examination, May - 2019
MICROPROCESSORS
Sub. Code : 63528

Day and Date : Wednesday, 22 - 05 - 2019   Total Marks : 50

Time : 09.30 a.m. to 11.30 a.m.

Instructions :   1)   Attempt any one Question from Q.No.1, 2 and 5, 6.

                   2)   Question No. 3, 4 and 7,8 are compulsory.

SECTION - I

Q1) a)   Write and explain program of Addition between two 16-bit no.   [5]

   b)   Explain Stack Memory addressing Mode of advanced microprocessors.
                                                                              [5]

Q2) a)   Draw and explain Flag register for entire 80×86 and Pentium microprocessor.   [5]

   b)   Explain descriptor of 80286 microprocessor with proper diagram.   [5]

Q3) a)   Draw and Explain internal architecture of Microprocessors in detail with programming model.   [5]

   b)   Explain all Logical instructions of 8085 Microprocessors.   [5]

Q4) Write Short Note on (any one) :   [5]

   a)   Classification of Instructions.

   b)   Access Right Byte.

   c)   MOV Revisited.

SECTION - II

Q5) a)   Explain the structure of 80386 Microprocessor: The memory system.[5]

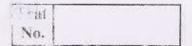   b)   Write and explain all Division instructions of microprocessor with proper syntax.   [5]

P.T.O.

Q6) a) Explain all register set of the Pentium-4 microprocessor. [5]

b) Explain DO-WHILE, REPEAT-UNTIL instructions. [5]

Q7) a) Explain WAIT, LOCK Prefix and ENTER and LEAVE instructions in details. [5]

b) Explain Short, Near and Far Jump with proper example. [5]

Q8) Write Short Note on (any one) : [5]

a) BOUND instruction

b) Hyper Threading Technology

c) Interrupt Vector Table

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Total No. of Pages : 2

S.E. (Computer Science and Engineering) (Semester - IV)

Examination, May - 2019

AUTOMATA THEORY

Sub. Code : 63531

Day and Date : Tuesday, 14 - 05 - 2019   Total Marks : 50

Time : 02.30 p.m. to 04.30 p.m.

Instructions : 1) Question No. 1 and Question No. 4 are Compulsory.

2) Solve any one question from questions No.2 & question No. 3.

3) Solve any one question from questions No.5 & question No. 6.

4) Assume suitable data wherever necessary.

5) Figures to the right indicate full marks.

Q1) Solve any three questions: [15]

a) Remove A productions from the grammar
    S→ABCBCDA
    A→CD
    B→Cb
    C→a|Λ
    D→Bd|Λ

b) Write a regular expression for
    i)   The Language containing strings starting with 01?
    ii) The Language containing strings not containing 00?

c) State & prove Kleen's theorem Part I.

d) Design a DFA For the regular expression (11+110)*.

Q2) a) Find the context free grammar for the following languages.   [6]
    i)   L={$a^i b^j c^k$ | i = j + k }
    ii) L={ $a^n b^m a^n$ | n ≥ 0, m ≥ 1}

b) Compare DFA with NFA.   [4]

Q3) a) Explain recursive descent parsing.   [4]

b) What is ambiguous CFG? Explain an example of ambiguous CFG. [6]

P.T.O.

Q4) Solve any three questions : [15]

a) Define Following Terms:
   i) Pushdown Automata.
   ii) Acceptance of a string by PDA.

b) Write Short note on "Universal Turing Machine".

c) Explain with suitable example intersection of two Context Free Languages.

d) Construct a Turing Machine for accepting even length string.

Q5) a) Construct PDA for following CFG. [6]

$$S \rightarrow [S] \mid \{S\} \mid \Lambda$$

b) Write short note on "Configuration of a PDA". [4]

Q6) a) Construct a Turing Machine to accept regular language represented by following regular expression [6]

$$r = (a + b)*abb$$

b) Define Turing Machine and acceptance of a string by Turing Machine. [4]

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S.E. (Computer Science and Engineering) (Semester - IV) (Revised) Examination, May - 2019
COMPUTER NETWORKS
Sub. Code : 63532

Day and Date : Thursday, 16 - 05 - 2019   **Total Marks : 50**

Time : 02.30 p.m. to 04.30 p.m.

Instructions :   1)   Solve any two questions from each section.
                2)   Figures to the right indicate full marks.
                3)   Assume suitable data whenever necessary.

SECTION - I

Q1) a)   Write a short note comparison of virtual-circuit and datagram networks.**[7]**

    b)   Explain count-to-infinity problem.   **[5]**

Q2) a)   Write a short note on classful addressing.   **[6]**

    b)   Explain following with reference to classful addressing.   **[6]**
        i)   Subnetting
        ii)   Supernetting
        iii)   Address Depletion

Q3) a)   In brief explain any two following regarding congestion control in datagram
        subnets.   **[6]**
        i)   The Warning Bit
        ii)   Choke Packets
        iii)   Hop-by-Hop Choke Packets

    b)   With neat diagram explain leaky bucket algorithm.   **[7]**

SECTION - II

Q4) a)   Explain the Berkeley socket primitives for TCP.   **[7]**

    b)   Discuss the connection establishment procedure in transport protocol.
                                                [6]

P.T.O.

Q5) a) Draw and explain architecture of WWW. [6]

b) Describe DNS message in detail. [6]

Q6) a) Explain the symmetric key encryption algorithm. [6]

b) Explain rotation cipher. In asymmetric-key cryptography, how do you think two persons can establish two pairs of keys between themselves? [6]

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