Code : 1G451

R-11/R-13

III B.Tech. I Semester Supplementary Examinations May/June 2016
Automata and Compiler Design
(Information Technology)

Max. Marks: 70   **Time: 03 Hours**

Answer *any five* questions
All Questions carry equal marks (14 Marks each)
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1. a) Write an algorithm to convert NFA to DFA with proper Example?   10M

   b) What are the differences between NFA and DFA?   4M

2. a) Write about derivations in context free grammar (Left Most Derivation and Right most Derivations) with parse tree?   4M

   b) Write about LL(K) parser with proper Examples?   10M

3.   Construct SLR Parsing table for the below grammar and check the input string W=id+id*id is accepted by the grammar are not

   E->E+T/T
   T->T*F/F
   F->E/id   14M

4. a) Write about S-attributed and L-attributed grammar in details?   7M

   b) Write about Abstract Syntax tree?   7M

5.   Write about type systems and explain equivalence of type expressions?   14M

6.   Write about Symbol Table organization in details?   14M

7. a) What are the different basic building blocks in code optimization?   7M

   b) Explain different flow graphs used in code optimization?   7M

8.   Write generic code generation algorithm in detail with proper example?   14M

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Code : 1G153

R-11/R-13

III B.Tech. I Semester Supplementary Examinations May/June 2016
Computer Networks
(Common to CSE & IT)

Max. Marks: 70   **Time: 03 Hours**

Answer *any five* questions
All Questions carry equal marks (14 Marks each)
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1. a) What is a network? Explain the differences between Local Area Networks and Wide Area Networks with suitable diagrams.   7M

   b) Explain the layers in OSI model. Mention the necessity of using layer concept in OSI model.   7M

2. a) Compare circuit-switching and packet-switching networks.   7M

   b) Define Guided media and unguided media with one example each.   7M

3. a) Explain the services provided by Data link layer to network layer.   6M

   b) Explain three types of frame structure in data link protocol HDLC.   8M

4. a) Explain CSMA persistent and non persistent mechanism. Mention various types of persistent methods used in CSMA.   7M

   b) Explain the 802.11 Frame Structure.   7M

5. a) Explain distance vector routing algorithm.   7M

   b) What is flooding? Why flooding technique is not commonly used for routing?   7M

6. a) Compare IPv4 and IPv6 protocol   6M

   b) Discuss IP addressing methods. Mention the type of address for the following IP address i) 126.33.44.56 ii) 251.252.253.259   8M

7. a) Explain TCP and UDP with diagram.   8M

   b) Explain one of the Elements of Transport Protocols.   6M

8. a) Write short note on Electronic Mail.   8M

   b) What are the advantages of DNS?   6M

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Code : 1G454

III B.Tech. I Semester Supplementary Examinations May/June 2016
Unix Programming
(Information Technology)

Max. Marks: 70   **Time: 03 Hours**

Answer *any five* questions
All Questions carry equal marks (14 Marks each)
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1   Explain the following commands with examples.
    a) date
    b) cal
    c) who
    d) pwd   14M

2   a) How memory is allocated for a file in UNIX?   6M
   b) Can you change the permissions of a file via terminal? If so give an example.   8M

3   a) How UNIX handles standard streams?   6M
   b) Give a brief note on display beginning and end of files.   8M

4   a) List and explain the options of sed command in detail.   7M
   b) Search for the string "2015" in a file with the help of grep command.   7M

5   a) Make a comparison between the awk and grep.   8M
   b) List and explain the various applications of awk.   6M

6   a) Define Korn Shell. Explain the features of Korn Shell.   8M
   b) How to create an environmental variable in terminal?   6M

7   a) Briefly explain the eval command of C shell.   8M
   b) Write a C shell program to display all prime numbers between 1 and 99.   6M

8   Explain the following directory API:
    a) opendir
    b) readdir
    c) closedir
    d) mkdir   14M

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III B.Tech. I Semester Supplementary Examinations May/June 2016
Microprocessors and Interfacing
(Common to CSE & IT)

Max. Marks: 70   **Time: 03 Hours**

Answer *any five* questions
All Questions carry equal marks (14 Marks each)
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1. a) With a neat pin diagram explain the minimum mode operation of 8086   7M

   b) Describe the flag resister of 8086.   7M

2. a) With examples explain about the addressing modes of 8086 microprocessor.   9M

   b) Write an ALP in 8086 to find largest of a set of 8bit numbers.   5M

3. a) Explain the need for actuators, A/D and D/A converters in microprocessor based systems.   9M

   b) Write in detail about stepper motor and actuators and their interface with 8086.   5M

4. a) What are the registers available in 8257? What are their functions?   8M

   b) Discuss about Static RAM & EPROM with reference to 8086   6M

5. a) Explain the programming sequence of PIC along with flow chart explain each command word in detail.   8M

   b) Discuss in detail about the Interrupt structure of 8086.   6M

6. a) Define mode word register of 8251 for asynchronous mode.   7M

   b) Give the signal voltage ranges a logic high and for a logic low in the RS-232C standard.   7M

7. a) Describe the salient features of Pentium and Pentium Pro processors.   7M

   b) Explain the real and protected mode segmentation and paging   7M

8. a) Draw a block diagram of 8051 and explain the functions performed by each block.   9M

   b) Write an assembly language program in 8051 to find the GCD of two numbers.   5M

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