(DCS / DIT 311)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Third Year Third Semester)

COMPUTER SCIENCE&IT

Paper – I : Operating Systems

Time : 3 Hours **Maximum Marks: 75**

Answer Question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15 = 60)***

1) Write short notes on:

a) What are file attributes?

b) What is bad block?

c) Define worm.

d) Explain starvation.

e) Explain limit register and relocation register.

UNIT - I

2) Describe multi-programmed Batched systems.

OR

3) Explain

a) Process Scheduling

b) Threads.

UINT-II

4) Explain Multiple –Process scheduling with an example.

OR

5) What is process Synchronization? Explain classical problem of synchronization.

UNIT - III

6) Explain the combined Approach to Deadlock Handling.

OR

7) What is Memory Management? Explain segmentation with Paging.

UNIT -IV

8) What is Page Replacement ? Explain Page Replacement Algorithm.

OR

9) Explain

a) Direct structure protection

b) Allocation methods.

(DCS / DIT 312)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Third Year Third Semester)

COMPUTER SCIENCE&IT

Paper – II : Systems Software

Time : 3 Hours **Maximum Marks: 75**

Answer Question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15 = 60)***

1) Write short notes on:

a) Data Formats

b) Processor

c) Debugging

d) Kernel

e) Subsystem.

UNIT - I

2) Draw a neat block diagram of design of Assembler- Pass1 & Pass2 and explain it.

OR

3) Explain one pass Macro Processor handling macro calls within macro definition.

UNIT - II

4) Explain the function of debugging systems with an example.

OR

5) a) Describe the data bases used in the design of a direct linking loader.

b) Explain about Text Editors.

UNIT - III

6) Give a brief overview of UNIX system.

OR

7) Explain Internal representation of files.

UNIT - IV

8) What is system call? Discuss various system calls used for the file system.

OR

9) Explain

a) I/O Subsystem.

b) Inter process communication.

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(DCS / DIT 313)

B.Tech. DEGREE EXAMINATION, DECEMBER - 2015

(Examination at the end of Third Year Third Semester)

COMPUTER SCIENCE & IT

Paper - III : Operations Research

Time : 03 Hours **Maximum Marks : 75**

Answer Question No.1 is compulsory ***(15)***

Answer One question from each unit ***(4×15=60)***

1) Write a short notes on:

a) Initial Basic Feasible solution

b) Dual simple method

c) Infeasible solution

d) Critical path

e) Saddle point

UNIT –I

2) a) Explain Modeling in operations Research.

b) Explain phases of OR study.

OR

3) Give a brief account on Linear programming and its applications.

UNIT –II

4) Briefly explain about Transportation and Assignment models.

OR

5) Explain

a) How to solve the rectangular two person zero sum games.

b) Solution of rectangular games in terms of mixed strategies.

UNIT –III

6) Describe briefly about Inventory control in detail.

OR

7) Explain about the recursive equation approach and Computational procedure in dynamic programming.

UNIT –IV

8) Explain Project Management by PERT/ CPM in detail.

OR

9) Explain Monte- Carlo simulation and Applications to Queuing Problems.

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(DCS / DIT 314)

B.Tech. DEGREE EXAMINATION, DEC. - 2015

(Examination at the end of Third Year Third Semester)

COMPUTER SCIENCE & IT

Paper - IV : Design & Analysis of Algorithms

Time : 03 Hours **Maximum Marks : 75**

Answer Question No.9 is compulsory ***(15)***

Answer One question from each unit ***(4×15=60)***

UNIT –I

1) Explain the Greedy Method. knapsack problem.

OR

2) Describe single source shortest paths.

UNIT –II

3) What is binary search tree? Explain optimal Binary search trees?

OR

4) Explain all pairs shortest path problem.

UNIT –III

5) Explain traversal & search techniques? Briefly?

OR

6) What is back tracking? Explain Hamiltonian cycle.

UNIT –IV

7) Explain Branch and Bound methods? Briefly ?

OR

8) Discuss about NP hard and NP complete problems.

9) Write short notes on:

a) Job sequencing.

b) Dynamic Programming.

c) Reliability design.

d) DFS.

e) Knapsack problem.

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(DCS / DIT 321)

B. Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Third Year Fourth Semester)

COMPUTER SCIENCE & IT

Paper – I : Automata Theory & Formal Languages

Time : 3 Hours **Maximum Marks: 75**

Answer question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15=60)***

1) Write a short notes.

a) MYHIL-NERODE theorem.

b) Derivation Trees.

c) Context free grammar.

d) Turing Machine.

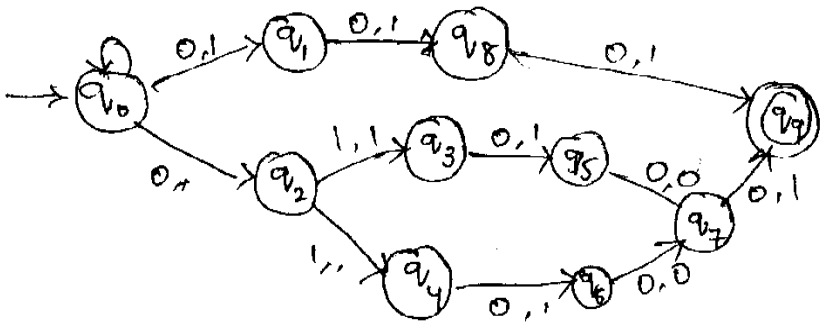
e) Undecidability.

UNIT-I

2) Explain Non-Deterministic Finite Automata and Finite Automata with E-Moves.

OR

3) Convert the following NFA into on equivalent DFA.



UNIT-II

4) a) Explain closure properties of Regular language.

b) Write context free grammar for the regular expression $0*1(0+1)*+1*(0*)^*$.

OR

5) Explain Design algorithms for regular sets in detail.

UNIT-III

6) a) Obtain the following grammar in Chomsky Normal form.

$E \rightarrow E+T/T,\ T \rightarrow T*F/F,\ F \rightarrow (E)/I$

$I \rightarrow a \mid b \mid c \mid Ia \mid Ib \mid Ic$.

b) Explain about context free languages.

OR

7) Explain pushdown Automata context free languages in detail.

UNIT-IV

8) Explain Turing machines in detail.

OR

9) Explain the properties of Recursive and Recursively Enumerable Languages.

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(DCS / DIT 326)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Third Year)

COMPUTER SCIENCE & IT

Paper - VI : Internet Programming

Time : 3 Hours **Maximum Marks: 75**

Answer Question No.1 is compulsory ***(15)***

Answer ONE question from each unit ***(4×15 = 60)***

1) Write a short notes on:

a) Packages & Interfaces.

b) AWT.

c) Swing.

d) Network.

e) Bean Box.

UNIT - I

2) What is meant by Polymorphism? Explain it. Write a java program.

OR

3) What are the benefits of exception handling? Discuss the usage of throws and 'finally' keywords.

UNIT - II

4) What are layout managers in java? Explain them with examples.

OR

5) Write a java program that the parameter passing takes place through applets.

UNIT - III

6) List and describe the classes provided by java x. Servlet.http package.

OR

7) Explain JDBC with a java program.

UNIT - IV

8) Explain about:

a) RMI.

b) Networking.

OR

9) Write a java program on java Beans.