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Code No: R32055

R10

Set No. 1

III B.Tech II Semester, Regular/Supplementary Examinations, May/June - 2015

ADVANCED JAVA AND WEB TECHNOLOGIES

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 What is a frame? What are the advantages of frames? Discuss their usage in WebPages. [15]
- 2 a) Define PHP and how do you configure wamp and xamp server. [7]
b) Explain Identifiers in PHP with an example. [8]
- 3 a) How XML is useful in defining data for web applications? Explain. [7]
b) Discuss the various terms related to document type definition. [8]
- 4 a) Define Java Bean. Explain the Java Bean class preparation. [7]
b) With relevant examples explain the different types of beans properties. [8]
- 5 a) What is importance of session tracking? How sessions are created? [8]
b) Explain the methods that are central to the life cycle of a servlet. [7]
- 6 a) Explain the anatomy of a JSP page. [7]
b) Discuss about JSP processing. [8]
- 7 a) Explain Database Programming using JDBC. [8]
b) Brief explain Javax.sql.* package. [7]
- 8 a) Explain AJAX. [5]
b) Write about Integrating PHP and AJAX. [10]

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Set No. 2

III B.Tech II Semester, Regular/Supplementary Examinations, May/June - 2015

ADVANCED JAVA AND WEB TECHNOLOGIES

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 What is meant by cascading style sheet? Explain with illustration. [15]
- 2 a) Explain syntax of Arrays in PHP with example. [8]
b) Explain the Anatomy of a PHP Page. [7]
- 3 a) Explain the use of XML schema in the process of web designing with an example. [7]
b) Explain how XLST works with neat illustrations. [8]
- 4 a) What is the difference between a Bean and any other class? Explain. [8]
b) How a bean can be used in a web document? Discuss an example. [7]
- 5 a) Explain init(), service(), and destroy() methods of servlet. [8]
b) Explain how server handles security issues. [7]
- 6 a) Discuss the benefits of JSP. [7]
b) What are the subdirectories and its contents in the Tomcat installation directory? [8]
- 7 a) Explain deploying JAVA Beans in a JSP Page. [8]
b) Write in brief about struts framework. [7]
- 8 a) Brief about SOAP. [5]
b) Write in detail about Integrating PHP and AJAX. [10]



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Set No. 3

III B.Tech II Semester, Regular/Supplementary Examinations, May/June - 2015
ADVANCED JAVA AND WEB TECHNOLOGIES
(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 What is meant by style? Discuss the mechanisms by which styles can be applied to HTML documents. [15]
- 2 a) Explain Get and Post methods in PHP. [7]
b) Explain static, global and super global variables with an example. [8]
- 3 a) What is SAX parser? What does it produce. [5]
b) Compare SAX parser with DOM parser. [5]
c) Explain why XML uses both streaming and tree-based parsing. [4]
- 4 a) Define Java Bean. Explain the Java Bean class preparation. [8]
b) Explain the highlighting features of Java Beans. [7]
- 5 a) What is servlet? How is it different from applet? What are its advantages? [7]
b) Explain briefly about javax.servlet package. [8]
- 6 a) What are the problems with servlets? How JSP solves the problems. [7]
b) What is MVC? Explain JSP application design with MVC. [8]
- 7 a) Explain in detail accessing a Database from a JSP. [7]
b) What are the application specific database actions? [8]
- 8 a) Write about WSDL. [7]
b) Write about UDDI. [8]



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III B.Tech II Semester, Regular/Supplementary Examinations, May/June - 2015
ADVANCED JAVA AND WEB TECHNOLOGIES
(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 Explain the two uses of tables. Quote suitable HTML code examples in the discussions. [15]
- 2 a) Define PHP and how do you configure wamp and xamp server. [7]
b) Explain Identifiers in PHP with an example. [8]
- 3 a) Distinguish between DOM approach and SAX approach. [7]
b) What is meant by a valid XML document? Compare it with a well-formed XML document. [8]
- 4 a) JAVA bean is a reusable platform – neutral software component”. Justify the statement. [8]
b) With relevant examples explain the properties of different types of beans. [7]
- 5 a) Write detail notes on servlets and also explain lifecycle of a servlet. [8]
b) Explain session tracking with example. [7]
- 6 a) Explain JSP application design with mode, view, controller (MVC). [7]
b) What are the contents of WEB-INF directory? Explain its use. [8]
- 7 a) What is JDBC? What are its advantages? [7]
b) Write briefly about struts framework. [8]
- 8 a) Write about AJAX. [7]
b) Write about WSDL. [8]

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Set No. 1

III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015
COMPUTER ARCHITECTURE
(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 a) Make a comparison of first five generations of electronic computers. [8]
b) Explain Flynn's classification. [7]
- 2 a) Where can be a block placed in a cache? Discuss the three categories of cache organization. [10]
b) How to compute average memory access time? [5]
- 3 a) Explain the design space of modern processor families with a neat diagram. [8]
b) Give the architecture of the MC68040 processor. [7]
- 4 a) Make a comparison of a synchronous pipeline model and an asynchronous pipeline. [8]
b) Explain dynamic instruction scheduling. [7]
- 5 a) Describe the schematic design of a cross point switch in a crossbar network. [8]
b) Explain routing in butterfly networks. [7]
- 6 Discuss cache coherence problems in data sharing and in process migration. Explain any one protocol approach for handling this problem. [15]
- 7 a) Write about the NEWS grid of CM-2 and explain scanning and spread mechanism. [7]
b) Explain the functionality of the processing node in the CM-5 system. [8]
- 8 How to improve performance of a system with parallel processing? Explain with illustrations. Give a brief overview of trends in parallel systems. [15]

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Set No. 2

III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015

**COMPUTER ARCHITECTURE
(Computer Science and Engineering)**

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Discuss the elements of a modern computer system in the context of parallel processing [8]
b) Describe the COMA model of a multiprocessor. [7]
- 2 a) “Virtual memory increases the performance of the system” – support this statement with proper explanation. [7]
b) Discuss the merits and demerits of multi level caches. [8]
- 3 a) Discuss the distinction between typical RISC and typical CISC processor architectures. [8]
b) Explain the locality property and its three dimensions. [7]
- 4 a) Explain pipeline schedule optimization techniques [8]
b) Discuss hardware score boarding for dynamic instruction scheduling. [7]
- 5 a) Explain routing in omega network. [7]
b) Describe modular construction of butterfly switch networks with 8X8 cross bar switches. [8]
- 6 a) Explain snoopy bus protocol for cache coherence. [7]
b) Discuss the concept of virtual channel. What is its role in avoiding deadlocks? [8]
- 7 Describe the distributed memory model and shared memory models for constructing SIMD supercomputers. [15]
- 8 a) Make a comparison of instruction level parallelism and structural parallelism. [8]
b) Explain any one parallel algorithm in detail. [7]



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COMPUTER ARCHITECTURE
(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 a) Describe the architectural evolution of computer systems. [9]
b) Explain the six layers for computer system development. [6]
- 2 a) Which block should be replaced on a cache miss? Explain any two strategies in detail. [9]
b) Compare and contrast paging with segmentation [6]
- 3 a) Describe the architectural model of a basic scalar computer system. [8]
b) Give the SPARC architecture with the processor and the floating point unit. [7]
- 4 a) Discuss the usage of the following buffers
(i)sequential buffer (ii)target buffer (iii)loop buffer [9]
b) What is a reservation table? Discuss its need in a pipeline. [6]
- 5 a) What is hot spot problem? Explain with an example. [6]
b) How to build 8 X 8 omega network with 2 X 2 switches? Explain with a neat diagram. [9]
- 6 a) Explain directory based protocol for cache coherence. [7]
b) Discuss various communication patterns in multicomputer networks. [8]
- 7 a) Describe the architecture of the CM-2 system [7]
b) What are permutation operations for inter processor communications on the CM-5 system? Explain with suitable diagrams. [8]
- 8 Explain parallel processing techniques used in Cray Line of computer systems. [15]



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Set No. 4

III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015

**COMPUTER ARCHITECTURE
(Computer Science and Engineering)**

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) How to measure the performance of a computer system? Explain with examples. [8]
b) Discuss the operational model of SIMD computers. [7]
- 2 Discuss in detail the basic cache optimizations for improving cache performance. [15]
- 3 a) Compare the main features of RISC and CISC processors [8]
b) State the inclusion property and explain the data transfers between adjacent levels of a memory hierarchy. [7]
- 4 a) What are the possible hazards in an instruction pipeline? Quote examples. [8]
b) Does a pipeline improve system's performance? Justify your answer. [7]
- 5 a) Explain the broad cast capability of an Omega network built with 4 X 4 switches. [8]
b) Describe multiport memory organizations for multiprocessor systems. [7]
- 6 a) Compare and contrast full-map directories with limited directories. [8]
b) Describe adaptive X-Y routing using virtual channels. [7]
- 7 Discuss the building blocks and the application paradigms of CM-5 machine. [15]
- 8 a) Discuss the instruction level parallelism and its limitations. [7]
b) Explain stream processing as a parallel application. [8]

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III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015
DESIGN AND ANALYSIS OF ALGORITHMS
(Comm to CSE and IT)

Time: 3 hours

Max. Marks:75

Answer any FIVE Questions
All Questions carry equal marks

- 1 a) What is meant by recursion? Explain with example, the direct and indirect recursive algorithms. [8]
- b) Show that $f(n)+g(n)=O(n^2)$ where $f(n)=3n^2-n+4$ and $g(n)=n\log n+5$ [7]
- 2 a) Explain the usefulness of the UNION and FIND fundamental operations on set. [8]
- b) Develop the algorithm for Find using collapsing rule with an example. [7]
- 3 a) Draw the tree of calls of merge sort for the following set. [8]
(35, 25,15,10,45, 75, 85, 65, 55, 5, 20, 18)
- b) Compare Quick sort algorithm performance from insertion sort algorithm. [7]
- 4 Differentiate between prim's algorithm and kruskal's algorithm for finding the minimum cost spanning tree. [15]
- 5 a) Derive the recurrence relation of reliability design problem. [7]
- b) Solve the following 0/1 Knapsack problem using dynamic programming [8]
 $(p_1, p_2, \dots, p_4) = (1, 2, 5, 6), (w_1, w_2, \dots, w_4) = (2, 3, 4, 5), m=8, n=4.$
- 6 a) Explain the 4-Queen problem using backtracking? Draw the permutation tree by taking implicit constraint, explicit constraint and bounding functions. [8]
- b) Describe the Backtracking technique to m-coloring graph. Explain with an example. [7]
- 7 a) Explain the principles of [8]
i) FIFO branch and Bound and ii) LC Branch and Bound
- b) Discuss the general method of Branch and Bound. [7]
- 8 a) Explain the satisfiability problem. [7]
- b) How are P and NP problems related? Give the relation between NP-hard and NP problems. [8]

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Set No. 2

III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015
DESIGN AND ANALYSIS OF ALGORITHMS
(Comm to CSE and IT)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 a) Write short notes on Amortized analysis. [7]
b) Explain the asymptotic notations with an example for each. [8]
- 2 a) Write a short note on spanning trees. [7]
b) Develop the algorithm for Union using weighting rule with an example. [8]
- 3 a) Draw the tree of calls of merge for the following set of elements [7]
(20, 30, 10, 40, 5, 60, 90, 45, 35, 25, 15, 55)
b) Discuss briefly about the randomized quick sort. [8]
- 4 Write the Dijkstra's algorithm for finding the single source shortest path problem [15]
with a suitable example.
- 5 a) Use the function OBST to compute $w(i,j)$, $r(i,j)$, and $c(i,j)$, $0 \leq i < j \leq 4$, for the [7]
identifier set $(a_1, a_2, a_3, a_4) = (\text{do}, \text{if}, \text{int}, \text{while})$ with $p(1:4) = (3, 3, 1, 1)$ and
 $q(0:4) = (2, 3, 1, 1, 1)$. Using the $r(i,j)$'s construct the optimal binary search tree.
b) Describe the Traveling salesman problem & discuss how to solve it using [8]
Dynamic Programming.
- 6 Differentiate between Backtracking and Branch & Bound technique by [8]
considering 4- queen problem. Explain how nodes are generated and numbered
in state space tree in the above two techniques.
- 7 With an example, explain how the branch – and – bound technique is used to [8]
solve a) 0/1 knapsack and b) travelling sales person problem. [7]
- 8 a) Explain about different types of NP problem. [8]
b) Write short notes on Cook's theorem. [7]

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III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015

DESIGN AND ANALYSIS OF ALGORITHMS

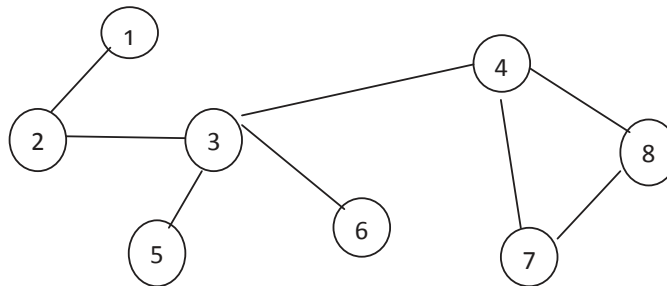
(Comm to CSE and IT)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 a) List the advantages of pseudo code convention over flow charts. [7]
- b) Write the recursive algorithm for computing Fibonacci numbers and solve its recurrence relation. [8]
- 2 a) What is connectivity in a graph? How are they different? [6]
- b) For the following graph identify the articulation points and draw the bi connected components. [9]



- 3 a) Sort the records with the following index values in the ascending order using quick sort algorithm. [10]
65,70,75,80,60,55,50,45
- b) Explain average case time complexity of quick-sort. [5]
- 4 a) Define minimum cost spanning trees. Explain them with suitable example. [8]
- b) Find the optimal solution to the job sequencing with deadlines for the following $n=5$, $(P_1, P_2, P_3, P_4, P_5) = (20, 15, 10, 5, 1)$ $(d_1, d_2, d_3, d_4, d_5) = (2, 2, 1, 3, 3)$. [7]
- 5 a) Explain the procedure to solve the Traveling salesman Problem with approximation algorithms. [8]
- b) Find the minimum no of operations required for the following chain matrix multiplication $A(5, 3) * B(3, 4) * C(4, 2) * D(2, 6)$ [7]
- 6 a) Explain subset-sum problem and discuss the possible solution strategies using backtracking. [8]
- b) Discuss about Hamiltonian cycles. Take a graph and draw the Hamiltonian cycle for it. [7]



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- 7 Explain the following: [15]
- a) LC search
 - b) Bounding
 - c) LC branch and bound solution
 - d) FIFO branch and Bound.
- 8 a) What are differences between NP-Hard and NP-Complete classes? Explain with examples. [8]
- b) Explain non deterministic algorithms? Give some examples. [7]

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III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015
DESIGN AND ANALYSIS OF ALGORITHMS
(Comm to CSE and IT)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

- 1 a) Write short notes on probabilistic analysis. Discuss its role in Algorithmic analysis. [8]
- b) Write recursive algorithm for towers of Hanoi and analyze its time complexity. [7]
- 2 a) Explain the usefulness of the following fundamental operations in sets. [8]
i) MIN ii) DELETE iii) FIND iv) INSERT
- b) Explain the set representation using trees. [7]
- 3 a) Discuss in detail about Divide and Conquer method with suitable examples. [8]
- b) Write binary search and linear search algorithm. Discuss the difference. [7]
- 4 a) What is greedy method? Explain with example. [8]
- b) Find an optimal solution to the knapsack instance $n=7$, $M=15$, $(P_1 \dots P_7)=(10,5,15,7,6,18,3)$ $(W_1 \dots W_7)=(2,3,5,7,1,4,1)$. [7]
- 5 a) Explain how dynamic programming is applied to solve travelling sales person problem. [8]
- b) Explain the importance of optimal binary search tree. [7]
- 6 Explain in detail about Backtracking with examples and apply Backtracking to solve graph coloring problem. [15]
- 7 Explain in detail the general method of Branch and Bound with any one application. [15]
- 8 Explain the P, NP, NP-Hard and NP-complete classes? Give relationship between them [15]

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III B.Tech II Semester Regular/ Supplementary Examinations, May/June - 2015

MANAGEMENT SCIENCE

(Common to EEE, ECE, CSE, CHEM, EIE, BME, IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) What is the significance of Hawthorne experiments for management? [8]
b) Define Management and explain its functions. [7]
- 2 a) Explain the significance of statistics in quality control. [7]
b) Explain the variables that go into the determination of Economic Order Quantity. [8]
- 3 a) What do you understand by Human Resource Management? [8]
b) Define Human Resource Development? Outline its concept. [7]
- 4 The following table gives the information about various activities of a project network. [15]

Activity	Normal Time	Normal Cost	Crash Time	Crash Cost
1-2	9	8000	7	10000
1-3	5	5000	3	8000
2-3	7	7000	5	8600
2-4	8	6000	6	7000
3-4	6	9000	4	11400

The indirect cost per day is 2,600/-. Determine the optimum cost and duration of the project.

- 5 a) How do you formulate and implement strategy? Explain. [8]
b) What is the need for corporate planning process? [7]
- 6 a) What is Ethics? Explain the importance of ethics in financial management. [8]
b) "Ethical financial management practices lead an organization to greater heights"
Discuss. [7]
- 7 a) Briefly explain the various techniques of business communication. [8]
b) What are the problems faced while meeting the cross cultural communication? [7]
- 8 a) Define Total Quality Management and explain its significance. [8]
b) Write notes on six sigma. [7]



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Set No. 2

III B.Tech II Semester Regular/ Supplementary Examinations, May/June - 2015

MANAGEMENT SCIENCE

(Common to EEE, ECE, CSE, CHEM, EIE, BME, IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Explain the nature and importance of management. [8]
b) What are the challenges you have to face as a manager? [7]
- 2 a) Describe the basic procedure to be followed in adopting work study techniques for Sound results. [8]
b) What is inventory? Explain the need for inventory control. [7]
- 3 a) Explain the functions of personnel management. [8]
b) Evaluate the different sources of recruitment. [7]
- 4 A project consists of nine activities and three time estimates. Find [15]
a) Expected time variance
b) Network diagram
c) Calculate Earliest times, Latest times and floats
d) Critical path and duration

Activity	Optimistic Time	Most likely Time	Pessimistic Time
1-2	3	6	15
1-6	2	5	14
2-3	6	12	30
2-4	2	5	8
3-5	5	11	17
4-5	3	6	15
6-7	3	9	27
5-8	1	4	7
7-8	4	19	28

- 5 a) What are the factors of external and internal environmental to be considered for Formulating the strategy? Explain. [8]
b) Describe the process of strategic management. [7]
- 6 a) Write about the importance of ethics in marketing? [7]
b) What are the basic principles of business ethics? [8]



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- 7 a) Briefly explain the various techniques of business communication. [8]
b) Explain the problems and challenges of cross cultural communication. [7]
- 8 a) What is Enterprise Resource Planning? Explain. [7]
b) Explain the merits and demerits of Enterprise Resource Planning. [8]



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III B.Tech II Semester Regular/ Supplementary Examinations, May/June - 2015

MANAGEMENT SCIENCE

(Common to EEE, ECE, CSE, CHEM, EIE, BME, IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Describe the theory of scientific management and explain how it was criticized. [8]
- b) What is matrix organization and what is its uniqueness? [7]

- 2 a) What do you mean by EOQ? Derive the formula for determining the EOQ. [8]
- b) Define Control charts and explain its types. [7]

- 3 a) What do you understand by marketing mix? [8]
- b) Explain briefly the basic elements in marketing mix. [7]

- 4 A small project is composed of the following activities whose time estimates are [15]
 given below.

Activity	Predecessor	Optimistic Time	Most likely Time	Pessimistic Time
A	-	2	4	6
B	A	8	12	16
C	A	14	16	30
D	B	4	10	16
E	C, B	6	12	18
F	E	6	8	22
G	D	18	18	30
H	F, G	8	14	32

- i) Draw the network and find the critical path.
- ii) Compute the expected project completion time.
- iii) Calculate Earliest times and Latest times

- 5 a) Define strategic management and describe the process of strategic management. [8]
- b) How do you carry out SWOT analysis for a manufacturing unit? [7]

- 6 a) What is Ethics? Explain the importance of ethics in HRM. [8]
- b) Write about the importance of ethics in marketing. [7]



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- 7 a) Explain the various elements of writing a good report. [8]
b) What are the skills required to effective presentation? [7]
- 8 Write a notes on : a) Supply Chain Management [8]
b) Performance Management. [7]



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III B.Tech II Semester Regular/ Supplementary Examinations, May/June - 2015

MANAGEMENT SCIENCE

(Common to EEE, ECE, CSE, CHEM, EIE, BME, IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Why is management considered as a profession and what factors make it a profession? [8]
b) Distinguish between Theory – X and Theory – Y. [7]
- 2 a) What is meant by materials management? State its advantages and disadvantages. [8]
b) Explain the types of ABC analysis. [7]
- 3 a) State the importance and methods of job evaluation. [8]
b) Define training and explain its methods. [7]
- 4 A PERT network has the following activities with their time estimates given below. You are required to calculate the expected time of activities, draw the network and find the critical path and its duration. [15]

Activity	Optimistic Time	Most likely Time	Pessimistic Time
0-1	2	3.5	8
0-2	3	3.75	6
0-3	1	2.5	7
1-2	3	7.5	9
1-4	4	5.5	10
2-4	2	5	8
3-4	2	2.75	5
3-5	3	6	9
4-5	2	5	8

- 5 a) What do you understand by the concept of strategy? Discuss the concept of Mission And Vision. [8]
b) Explain strategy variations and Generic strategy alternatives. [7]
- 6 a) Discuss about the basic principles of business ethics. [8]
b) Explain the importance of Ethics in business management? [7]
- 7 a) Explain various methods of interviews in detail. [8]
b) What is conference and briefly explain the video conferences. [7]
- 8 Write a notes on: a) Capability Maturity Model [8]
b) Balanced Score card [7]



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Set No. 1

III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015

UNIX PROGRAMMING

(Comm to CSE and IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) With the help of syntax and example explain the various process utility commands. [10]
b) Distinguish between grep, egrep and fgrep. [5]
- 2 a) Write shell script to print given numbers in reverse order. (eg. If no is 321 it must print as 123) [8]
b) Explain the different special variables present in Bourne shell. [7]
- 3 a) What is a file? What are its characteristics? Explain them in detail. [7]
b) Explain fseek, fopen, fclose system call in detail. [8]
- 4 a) Draw and explain the kernel data structure for unix process. [8]
b) Explain the role of the following system calls with respect to process:
i) fork() ii) Wait() iii) Exec() [7]
- 5 a) Describe in detail about the unreliable signals. [7]
b) Explain the role of kill and raise functions in signal generation. [8]
- 6 a) Explain how to achieve the inter process communication by using FIFOs [8]
b) Write a program to implement the creation of a pipe. [7]
- 7 a) Discuss in detail about the internal data structure of a semaphore. [8]
b) What is a file? Explain Record locking in detail. [7]
- 8 a) Give brief description about the basic two types of process communication. [7]
b) Explain TCP client – server interaction using sockets. [8]



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III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015

UNIX PROGRAMMING

(Comm to CSE and IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Describe in detail about the disk utility commands. [8]
b) Give brief description about the file handling utilities. [7]
- 2 a) Write shell script to see current date, time, username and current directory [8]
b) Distinguish between local and environment variables. [7]
- 3 What is a directory? List and explain various directory maintenance systems calls that are present in unix. [15]
- 4 a) What is a process? Draw and explain the structure of a typical process. [8]
b) Describe in detail about the exit, exec and waitpid system calls. [7]
- 5 a) What is the role of the following in signal generation: i) pause and ii) alarm system calls. [8]
b) In contest of unix the signals are asynchronous. Justify. [7]
- 6 a) Write and explain the operations of a FIFO [8]
b) Give brief description about the name spaces. [7]
- 7 a) Discuss in detail about the role of semaphores in unix. [8]
b) Why should we lock the file? Explain it in detail. [7]
- 8 a) What is a socket? Explain the socket system call along with the parameters present in it. [8]
b) What system calls are used to send and receive the data through sockets? Explain them in detail. [7]



Code No: R32054

R10

Set No. 3

III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015

UNIX PROGRAMMING

(Comm to CSE and IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Explain the various backup utility commands with their syntax and example. [8]
b) Explain the use of the following commands in unix:
i) tar ii) cpio iii) rlogin iv) tail. [7]
- 2 a) Write shell script to print nos as 5,4,3,2,1 using while loop [7]
b) List and explain the several types of quotes supported by shell. [8]
- 3 a) Discuss with suitable examples the absolute and relative path names. [7]
b) Describe in detail about the various types of dup system calls. [8]
- 4 a) Differentiate between fork and vfork system calls. [7]
b) Explain the importance of zombie process in unix. [8]
- 5 a) With the help of syntax and example explain the kill and raise functions.
Explain the various parameters present in them. [8]
b) Write a program to implement the sleep function. [7]
- 6 a) How can we achieve full duplex communication by using pipes? Explain in detail. [8]
b) Explain how to create named pipes using FIFO. [7]
- 7 a) Describe in detail the types of locks available for locking the file. [8]
b) What is a semaphore? Explain the operations that are supported by it. [7]
- 8 a) Explain the role of accept system call in socket programming. [7]
b) Describe the role of port numbers with respect to sockets. [8]

Code No: R32054

R10

Set No. 4

III B.Tech II Semester Regular/Supplementary Examinations, May/June - 2015

UNIX PROGRAMMING

(Comm to CSE and IT)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE Questions
All Questions carry equal marks**

- 1 a) Discuss in detail about the different networking commands. [8]
b) Distinguish between mount & umount and unmask & ulimit. [7]
- 2 a) Write a shell Script, using case statement to perform basic math operations as [8]
'+' for addition, '-' for subtraction, 'x' for multiplication and '/' for division.
b) Give brief description about the flow – control construct present in shell. [7]
- 3 With the help of syntax and example explain the various directory handling [15]
systems calls.
- 4 a) Discuss in detail about the process identifiers. [7]
b) Write a program to start a new process. [8]
- 5 a) Which system call is used to suspend the calling process until a signal is [7]
caught. Explain it in detail.
b) Write short notes on common uses of signals. [8]
- 6 a) What is meant by inter process communication? Explain its role in UNIX [7]
operating system.
b) With the help of a neat sketch, explain the inter process by using pipes. [8]
- 7 a) Give brief description about the operations of a semaphore. [7]
b) Explain the different types of locks in detail. [8]
- 8 Write short notes on the following:
a) Socket() [4]
b) bind () [4]
c) listen () [4]
d) accept() [3]

