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8
2013

Question Paper Code : 57260

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Sixth Semester

Computer Science and Engineering

CS 6601 - DISTRIBUTED SYSTEMS

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART - A (10 × 2 = 20 Marks)

1. List the Limitations of distributed system.
2. Name some services and examples of Middleware.
3. What is the role of Proxy server and mobile code ?
4. Define Inter-process Communication.
5. Describe the characteristics of Peer to Peer systems.
6. Discuss on LDAP.
7. Distinguish between physical clock and logical clock.
8. Write the Happened-before relation.
9. List the issues in designing load balancing algorithms.
10. Write any two advantages of Process Migration.

PART - B (5 × 16 = 80 Marks)

11. (a) Explain in detail about trends in distributed systems. (16)
OR (10)
(b) (i) Enlighten the examples of distributed systems. (6)
(ii) Write short notes on WWW. (16)
12. (a) Illustrate TCP and UDP communication with suitable example programs. (16)
OR (16)
(b) Write down the steps in javaRMI and explain it with suitable programs. (8)
13. (a) (i) With neat sketch explain Routing Overlays in detail. (8)
(ii) Write short notes on the following : (4)
(1) Napster and its legacy (4)
(2) Peer to Peer Middleware (4)
OR (16)
(b) Elucidate about File Service Architecture with neat diagram. (16)
14. (a) Write short notes on the following : (8)
(i) Ricart and Agrawala's algorithm (8)
(ii) Maekawa's Voting algorithm (8)
OR
(b) (i) Explain concurrency control in detail. (12)
(ii) Discuss on Nested Transactions. (4)
15. (a) Illustrate the features and mechanism of Process Migration with suitable examples. (16)
OR
(b) Discuss on Task assignment, loading balancing and sharing in detail. (16)

Reg. No.

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2013
6

Question Paper Code : 57494

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Sixth Semester

Computer Science and Engineering

IT 6702 – DATA WAREHOUSING AND DATA MINING

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. What are Data Marts ?
2. What are data cubes ?
3. List the contents of Meta data Repository.
4. What is outlier analysis ?
5. Define Support & Confidence.
6. What is the use of pruning ?
7. State Bayes Theorem.
8. What is boosting ?
9. What is classifier accuracy ?
10. What is clustering ?

PART - B (5 × 16 = 80 marks)

11. (a) Give the steps for design and construction of Data warehouses and explain with three tier architecture diagram. (16)

OR

(b) (i) What is data preprocessing ? Explain the various data reduction techniques. (10)

(ii) Explain the basic methods for data cleaning. (6)

12. (a) Illustrate the various multidimensional data modeling to design a data warehouse. (16)

OR

(b) (i) Depict the 3 tier data warehousing architecture and explain (8)

(ii) What are the different types of OLAP servers ? (8)

13. (a) What is interestingness of a pattern ? Explain the integration of data mining system with a data warehouse. (16)

OR

(b) Explain the major issues in datamining. List the major data preprocessing techniques. (16)

14. (a) (i) Distinguish classification and prediction. State the issues regarding classification and prediction. (4)

(ii) Give the algorithm for Decision Tree Induction and explain with an example. (12)

OR

(b) Illustrate Apriori algorithm to find the frequent item sets with an example. Also explain the methods to improve its efficiency. (16)

5. (a) (i) What are the types of data in cluster analysis ? (6)

(ii) Illustrate the Partitioning clustering algorithms. (10)

OR

(b) (i) Explain the importance of outlier analysis in clustering. (6)

(ii) Describe the grid based clustering approaches. (10)

Reg. No.

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6
2013

Question Paper Code : 57492

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Sixth Semester

Computer Science and Engineering

IT 6601 – MOBILE COMPUTING

(Common to Information Technology

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. List the advantages of mobile computing.
2. Explain hidden and exposed terminal problems in infrastructure-less network.
3. What is DHCP ?
4. What is encapsulation in mobile IP ?
5. List the 3 important features of GSM security.
6. What are the main elements of UMTS.
7. List the characteristics of MANETs.
8. Compare MANET Vs VANET.
9. Give four examples of Mobile OS.
10. What is M-Commerce ?

PART – B (5 × 16 = 80 Marks)

11. (a) (i) Explain the characteristics of Mobile computing. (8)
(ii) Explain the structure of Mobile Computing Application. (8)
OR (16)
(b) Explain the various taxonomy of MAC protocols in detail. (8)
12. (a) (i) With a diagram explain DHCP and its protocol architecture. (8)
(ii) Explain IP-in-IP, Minimal IP and GRE encapsulation methods. (8)
OR
(b) (i) With a neat diagram explain the Architecture of TCP/IP. (8)
(ii) Explain the various improvements in TCP performance with diagram. (8)
13. (a) (i) Describe GSM architecture and its services in detail. (8)
(ii) Explain GSM Authentication and Security. (8)
OR
(b) (i) Explain GPRS and its Protocol architecture. (8)
(ii) Explain in detail about UMTS architecture. (8)
14. (a) (i) Explain Characteristics , Applications of MANET. (4 + 4)
(ii) Explain DSR Routing Protocols in detail. (8)
OR
(b) (i) Draw and explain the architecture of VANET. (8)
(ii) Explain the various Security and attacks on VANET. (8)
15. (a) (i) Explain the components of Mobile Operating Systems. (8)
(ii) Write short notes on Android SDK. (8)
OR
(b) (i) Explain the various applications of M-Commerce. (8)
(ii) Explain the Mobile payment schemes and Security issues. (4 + 4)

Reg. No.

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(6)
2013

Question Paper Code : 57263

B.E./ B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Sixth Semester

Computer Science and Engineering

CS 6660- COMPILER DESIGN

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART - A (10 × 2 = 20 Marks)

1. What are the two parts of a compilation ? Explain briefly.
2. Illustrate diagrammatically how a language is processed.
3. Write a grammar for branching statements.
4. List the operations on languages.
5. Write the algorithm for FIRST and FOLLOW in parser.
6. Define ambiguous grammar.
7. What is DAG ?
8. When does Dangling references occur ?
9. What are the properties of optimizing compiler ?
10. Write three address code sequence for the assignment statement

$d := (a-b) + (a-c) + (a-c).$

PART - B (5 × 16 = 80 Marks)

11. (a) Describe the various phases of compiler and trace it with the program segment
(position := initial + rate * 60). (16)
- OR**
- (b) (i) Explain language processing system with neat diagram. (8)
(ii) Explain the need for grouping of phases. (4)
(iii) Explain various Error encountered in different phases of compiler. (4)
12. (a) (i) Differentiate between lexeme, token and pattern. (6)
(ii) What are the issues in lexical analysis? (4)
(iii) Write notes on regular expressions. (6)
- OR**
- (b) (i) Write notes on regular expression to NFA. Construct Regular expression
to NFA for the sentence (alb)* a. (10)
(ii) Construct DFA to recognize the language (a/b)* ab. (6)
13. (a) (i) Construct Sack implementation of shift reduce parsing for the grammar (8)
E → E+E
E → E*E
E → (E)
E → id and the input string id1 + id2 *id3
- (ii) Explain LL(1) grammar for the sentence S → iEts | iEtSeS | a E → b. (8)
- OR**
- (b) (i) Write an algorithm for Non recursive predictive parsing. (6)
(ii) Explain Context free grammars with examples. (10)
14. (a) (i) Construct a syntax directed definition for constructing a syntax tree for
assignment statements. (8)
S → id := E
E → E1 + E2
E → E1 * E2
E → -E1
E → (E1)
E → id
- (ii) Discuss specification of a simple type checker. (8)
- OR**
- (b) Discuss different storage allocation strategies. (16)
15. (a) Explain Principal sources of optimization with examples. (16)
- OR**
- (b) (i) Explain various issues in the design of code generator. (8)
(ii) Write note on simple code generator. (8)

Reg. No.

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5
2013

Question Paper Code : 57490

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Fifth Semester

Information Technology

IT 6502 – DIGITAL SIGNAL PROCESSING

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. What is a continuous and discrete time signal ?
2. What are time invariant systems ?
3. Compute the DFT of the sequence $x(n) = \{1, 1, 1, 1\}$.
4. Perform circular convolution of two sequence $x(n) = \{1, 2, 3\}$ and $h(n) = \{4, 5, 6\}$.
5. Discuss the need for prewarping.
6. What are the properties of Chebyshev filter ?
7. What are the properties of FIR filter ?
8. What are the desirable characteristics of the windows ?
9. What are the three-quantization errors to finite word length registers in digital filters ?
10. What is meant by "dead band" of the filter ?

PART - B (5 × 16 = 80 Marks)

11. (a) (i) Determine the power and energy of the signal $x(n) = \left(\frac{1}{3}\right)^n u(n)$. (8)
- (ii) Determine whether the system described by the input-output relation is linear or non-linear $y(n) = nx(n)$. (8)

OR

- (b) Determine the z transform and ROC of the signal : (16)
- (i) $x(n) = (a)^n u(n)$
- (ii) $x(n) = \cos n\theta u(n)$

12. (a) Compute the DFT for the sequence $\{1, 1, 1, 1, 1, 1, 1, 0\}$. Using radix-2 DIT-FFT algorithm. (16)

OR

- (b) In a LTI system the input $x(n) = \{3, -1, 0, 1, 3, 2, 0, 1, 2, 1\}$ and the impulse response $h(n) = \{1, 1, 1\}$. Find the output $y(n)$ of the system using overlap save method. (16)

13. (a) Using Bilinear transformation design a high pass filter monotonic in the passband with a cutoff frequency of 1000 Hz and down 10 dB at 350 Hz. The sampling frequency is 5000 Hz. (16)

OR

- (b) Design a digital Chebyshev filter with the following specifications, using IIM

$$0.8 \leq |H(e^{j\omega})| \leq 1, 0 \leq \omega \leq 0.2\pi$$

$$|H(e^{j\omega})| \leq 0.2, 0.6\pi \leq \omega \leq \pi$$

(16)

14. (a) Design a HPF with the following frequency response :

$$H_d(e^{j\omega}) = 1 \text{ for } \pi/4 \leq \omega \leq \pi$$

$$= 0 \text{ for } |\omega| \leq \pi/4$$

of length $N = 11$ using Hanning window.

(16)

OR

- (b) Using frequency sampling method design a bandpass filter with the following specifications; sampling frequency 8 kHz, lower cutoff frequency 1000 Hz and upper cut off frequency 3000 Hz.

(16)

15. (a) Two first order filters are connected in cascaded whose system functions of the individual sections are $H_1(z) = 1 / (1 - 0.5 z^{-1})$ and $H_2(z) = 1 / (1 - 0.4 z^{-1})$. Determine the overall output noise power.

(16)

OR

- (b) Derive the steady state input and output noise power of an analog to digital converter used in a digital signal processing system.

(16)

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