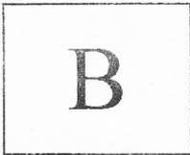


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B.Tech. Degree VII Semester Examination November 2014

EB/EC/CS/EE/EI/IT 701 INDUSTRIAL ORGANIZATION AND MANAGEMENT (2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART A (Answer *ALL* questions)

(8 x 5 = 40)

- I. (a) Compare formal and informal organizations.
(b) Briefly explain the objectives of co-operative organizations.
(c) List out the characteristics of management.
(d) What are the contributions of Gilbreth?
(e) Explain about market segmentation.
(f) Explain standard costing.
(g) What are the functions of materials management?
(h) Briefly explain about materials requirement planning.

PART B

(4 x 15 = 60)

- II. Explain different types of organization structures. (15)

OR

- III. (a) What is a joint stock company? Compare private and public limited companies. (8)
(b) Explain the merits and demerits of public sector organizations. (7)
- IV. (a) Explain the levels of management. What are the skills required at different levels? (9)
(b) Explain Neo-classical management theory. (6)

OR

- V. Explain the functions of management. (15)
- VI. Discuss the principles of personnel management. (15)

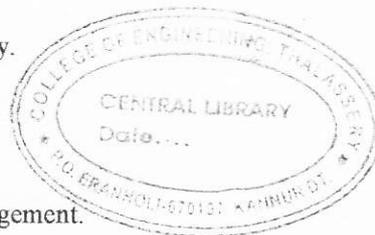
OR

- VII. (a) Differentiate between consumer and industrial markets. (6)
(b) Explain the basics of financial accounting. (9)
- VIII. (a) Differentiate between production and productivity. (5)
(b) A company requires 20,000 units of raw materials costing Rs.20 per unit. The cost of placing an order is Rs.500 and the carrying costs are 10% per year per unit of the average inventory. Determine (i) economic order quantity (ii) cycle time and (iii) total variable cost of managing the inventory. (10)

OR

- IX. (a) Explain the measurement of productivity. (6)
(b) Explain the objectives of storekeeping. (9)

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C

B.Tech. Degree VII Semester Examination November 2014

IT 702 MULTIMEDIA COMPUTING

(2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART A

(Answer *ALL* questions)

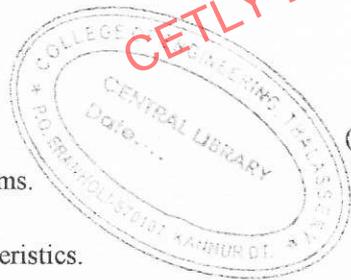
(8 x 5 = 40)

- I. (a) Briefly discuss on any three Multimedia Software tools.
- (b) What is Multimedia and Discuss its major challenges?
- (c) Briefly discuss the common components of a MIDI synthesizer.
- (d) Write a note on the basic concepts of computer based animation.
- (e) Discuss Huffman encoding compression technique.
- (f) What are the major operations on an MDBMS?
- (g) Briefly explain the processing of an SGML.
- (h) What do you mean by tracking devices and discuss several technologies which have been deployed?

PART B

(4 x 15 = 60)

- II. Explain the Multimedia Hardware Platforms.
- OR**
- III. Discuss Traditional Data Streams Characteristics.
- OR**
- IV. Discuss the major three aspects of video signal representation.
- OR**
- V. With a neat sketch, Explain Speech Recognition and Transmission System.
- OR**
- VI. Discuss briefly the JPEG compression process.
- OR**
- VII. Explain the main characteristics of an MDBMS.
- OR**
- VIII. Explain with a neat sketch the document architecture ODA.
- OR**
- IX. What is the importance of multimedia editors in media integration? Explain.



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B. Tech. Degree VII Semester Examination November 2014

CS/IT 703 ADVANCED COMPUTER NETWORKS

(2006 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A

(Answer *ALL* questions)

(8 x 5 = 40)

- I. (a) Explain the properties of Ethernet.
(b) Compare classless internet addressing with classful internet addressing.
(c) Explain Network Address Translation.
(d) How are computer terminals configured automatically in a network? Explain.
(e) Distinguish between IP Unicast, Multicast and Broadcast addressing.
(f) What is Spread Spectrum? Explain.
(g) Compare and contrast infrared and radio transmission.
(h) Write short notes on GPRS and UMTS.

PART B

(4 x 15 = 60)

- II. (a) What is ARP? Explain resolution of address through dynamic binding. (7)
(b) Explain the protocol used to find the internet address for a host when it boots up. (8)
- OR**
- III. (a) Explain the collision detection and recovery mechanism of Ethernet. (8)
(b) What is subnet mask? Find the broadcast address of the network 10.2.16.0 if it is having a subnet mask of 255.255.240.0. (7)
- IV. Explain ICMP. Describe how the protocol discovers and solicits a router. (15)
- OR**
- V. Explain BGP and its different message types. (15)
- VI. Explain wireless transmission with its advantages and disadvantages. (15)
- OR**
- VII. Explain and compare FDMA, TDMA and CDMA. (15)
- VIII. (a) Explain GSM architecture with a neat diagram. (10)
(b) Explain handover by cellular systems. (5)
- OR**
- IX. (a) Explain infrastructure and ad-hoc networks. (10)
(b) Explain mobile IP. (5)

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D

B.Tech. Degree VII Semester Examination November 2014

CS/IT 704 DISTRIBUTED COMPUTING (2006 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A (Answer ALL questions)

(8 x 5 = 40)

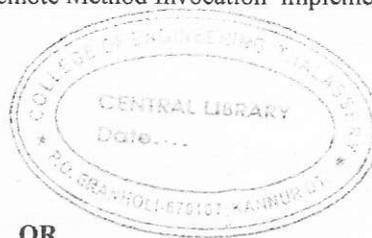
- I. (a) Describe architectural model for Distributed Systems.
- (b) Differentiate client-server communication and group communication.
- (c) Compare microkernel and mono lithic kernel.
- (d) Write a short note on Domain Name System.
- (e) Define Hampart's logical clocks in terms of 'happen before' relation.
- (f) How is a process elected using bully algorithm?
- (g) Describe query decomposition process.
- (h) How deadlock is detected using edge chasing algorithm?

PART B

(4 x 15 = 60)

- II. What are Distributed Systems? Explain the challenges of a Distributed System. (15)
OR
- III. (a) Explain Java API for TCP streams. (8)
(b) What is a Remote Object? How is Remote Method Invocation implemented? (7)
- IV. What is a thread? Explain: (15)
 - (i) Thread Architecture
 - (ii) Thread Scheduling
 - (iii) Thread Synchronization
 - (iv) Thread Lifetimes
 - (v) Thread Implementation**OR**
- V. Explain Distributed File System using File Service Architecture. (15)
- VI. (a) Discuss various algorithms used for synchronizing physical clocks. (7)
(b) Explain mutual exclusion algorithms, with example. (8)
OR
- VII. Explain Replication models, with neat diagrams. (15)
- VIII. With the help of neat diagrams, explain distributed database architecture. (15)
OR
- IX. (a) Describe the following: (8)
 - (i) Time stamp ordering
 - (ii) Optimistic concurrency control
(b) Explain transaction recovery methods. (7)

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B. Tech. Degree VII Semester Examination November 2014

EB/CS/IT 705 (C) ARTIFICIAL NEURAL NETWORKS

(2006 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A

(Answer ALL questions)

(8 x 5 = 40)

- I. (a) Show how a biological neuron can be represented by an artificial neuron.
(b) Explain any three nonlinear activation functions.
(c) Draw a discrete hopfield network and explain its working. How are its weights initialized?
(d) Explain the learning rule used in the Kohonen layer of a counter propagation network.
(e) Explain the working of a bidirectional associative memory network.
(f) Compare Kohonen self organizing map and learning vector quantization.
(g) What do you mean by simulated annealing?
(h) What do you mean by fuzzy sets and membership functions? Give example.

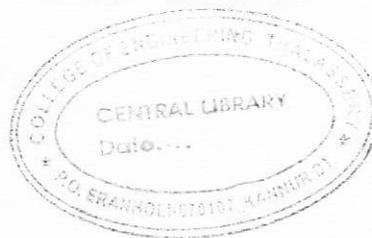
PART B

(4 x 15 = 60)

- II. (a) Draw the architecture of a Hebb net and give the algorithm to train the net. (8)
(b) Form a Hebb net to classify the given 2D input patterns (T and C) (7)
represented as follows:

X	X	X
	X	
	X	

X	X	X
X		
X	X	X



Target of T = +1
Target of C = -1
Assume bipolar data

OR

- III. (a) Show how the AND NOT function is realized using Mc Culloch Pitt's Neuron. (7)
(b) An artificial neural network is to be designed for the following training pairs. (8)
(11100,1), (00111, -1), (11000,1), (00011, -1)
Draw the architecture of the network and explain any learning algorithm that can be applied for the above network.

(P.T.O.)

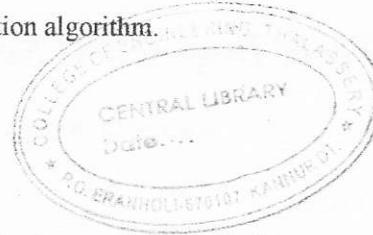
IV. Explain the architecture of a full counter propagation network and explain its training algorithm. (15)

OR

V. (a) Explain the training algorithm of a back propagation algorithm. (9)

(b) In a back propagation network (6)

- (i) how are initial weight assigned?
- (ii) what is the local minima problem?
- (iii) benefit of momentum factor.



VI. (a) Draw a Kohonen net with two cluster units and five input units. The weight vectors for the cluster units are (5)

$$W_1 = (0.1, 0.3, 0.5, 0.7, 0.9)$$

$$W_2 = (0.9, 0.7, 0.5, 0.3, 0.1)$$

Find the winning cluster units for the input patterns 1 1 0 0 1, 0 0 1 1 1 and 1 1 1 0 0.

(b) A maxnet has four neurons and inhibitory weights 0.2 and the initial activations are (10)

$$a_1(0) = 0.1, a_2(0) = 0.6, a_3(0) = 0.3, a_4(0) = 0.5$$

Use the application procedure to find the winning neuron.

OR

VII. (a) Explain the training algorithm of LVQ neural net. What is its stopping condition? (8)

(b) Explain the basic architecture of MEXICAN HAT network. Explain the application algorithm. (7)

VIII. Explain the architecture of a Boltzman machine and describe its application algorithm. (15)

OR

IX. (a) Explain what you mean by neuro fuzzy systems. (7)

(b) What do you mean by (8)

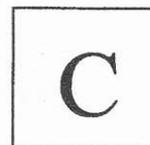
- (i) cognition?
- (ii) support vector machines?

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B.Tech. Degree VII Semester Examination November 2014

IT 705(D) CRYPTOGRAPHY AND DATA SECURITY (2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART A (Answer ALL questions)

(8 × 5 = 40)

- I. (a) Discuss various types of cryptanalytic attacks.
- (b) Write a short note on Kasiski test.
- (c) What are the characteristics of the DES algorithm?
- (d) Differentiate linear feedback shift registers and non-linear feedback shift registers.
- (e) Briefly explain the Knapsack system.
- (f) Explain the principle of digital signatures.
- (g) Explain general aspects of key management.
- (h) Write short note on fair cryptosystems.

PART B

(4 × 15 = 60)

- II. Explain the classical encryption techniques with examples. (15)
- OR
- III. Explain the working of Hagelin Machine. (15)
- IV. Describe DES algorithm with needed diagrams. (15)
- OR
- V. (a) Explain international data encryption algorithm. (8)
- (b) Explain Golomb's criteria for pseudo random sequences. (7)
- VI. Explain public key system with the help of RSA algorithm. (15)
- OR
- VII. (a) How to achieve message integrity with the aid of hash functions? (8)
- (b) Explain three protocols for message authentication and integrity. (7)
- VIII. Explain key distribution for symmetrical and asymmetrical algorithm. (15)
- OR
- IX. (a) Explain fair Diffie – Hellmann cryptosystems. (7)
- (b) What are the methods used to safeguard the data circulating within the network? (8)



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B.Tech. Degree VII Semester Examination November 2014

IT 705 (E) DATA MINING AND WAREHOUSING (2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART A (Answer *ALL* questions)

(8 x 5 = 40)

- I. (a) Distinguish data mining from data processing.
- (b) What are the different types of data mining tasks?
- (c) Explain the terms OLAP and data ware housing.
- (d) What do you mean by multidimensional data?
- (e) What are the various data pre processing techniques?
- (f) How do we descretize data? Explain with examples.
- (g) What is association rule mining?
- (h) Explain data generalization and summarization.

PART B

(4 x 15 = 60)

- II. Explain any three classification models, in detail, with examples.
- OR**
- III. Explain the clustering techniques, in detail, with example data.
- IV. Explain the architecture of a data warehouse, in detail.
- OR**
- V. What are the various possible operations on a multidimensional data base?
- VI. Explain the various data cleaning and reduction techniques.
- OR**
- VII. Why do we preprocess data? Explain data normalization with example.
- VIII. Explain mining descriptive statistical measures in large database.
- OR**
- IX. Explain how we can mine single dimensional Boolean association rules from transactional databases.
