F 3244

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Computer Science and Engineering / Information Technology

SECURITY IN COMPUTING (RT)

(Supplementary/Mercy Chance)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. What is Cryptography ?

2. Explain statistical database security.

3. What are the important features of modern symmetric key algorithms ?

4. Explain Hacker.

5. Describe the protective mechanisms adopted for OS security.

6. Write briefly on Electronic mail security.

7. Define Authentication.

8. Explain the need for Application Security.

9. What are the mechanisms used for providing Network Security ?

10. Discuss the security issues of databases.

(10 × 4 = 40 marks)

Part B

Answer all the questions.
Each question carries 12 marks.

11. Explain the different intrusion techniques in detail.

Or

12. Explain the different attacks on networks. Discuss the different security mechanisms adopted for providing network security.

13. Discuss briefly the security features for authentication, access control and remote execution in UNIX.

Or

14. Explain the authentication mechanisms adopted for OS security.

Turn over

15. (a) Explain the need for Cryptography. Explain the different techniques involved in encryption and decryption.

                                                                       (6 marks)

    (b) Write a note on Digital Signature.   (6 marks)

Or

16. Explain Diffie-Helmer key exchange algorithm in detail.

17. Discuss the security mechanisms used in JAVA platform.

Or

18. Explain, with a neat figure, IP security, architecture.

19. (a) Explain the relevance of database security.   (6 marks)

    (b) Define SQL Security.   (6 marks)

Or

20. Explain, in detail, how MAC helps in providing multi-level security.

                                                            [5 × 12 = 60 marks]

F 3271

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

ARTIFICIAL INTELLIGENCE (RT)

(Supplementary/Mercy Chance)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. Define Artificial Intelligence. How AI problems differ from normal problems ?
2. With an example, explain state-space approach for solving a problem.
3. What is meant by constraint satisfaction problem ?
4. What is meant by "O(n)" type with respect to an algorithm ?
5. How is the city-block distance between two vectors computed ?
6. Explain how alpha-beta pruning got this name.
7. Explain Modus porens in propositional logic.
8. What is meant by resolution ? What are its different types ?
9. What is the use of "assert" and "retract" with respect to a predicate in Prolog ?
10. What is a Horn clause ? Give example.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. (a) Explain uniform cost search.
    (b) Is breadth-first search a special case of uniform cost search ? Explain with reason.

Or

12. Explain bidirectional search and depth limited search.

13. Explain simulated annealing algorithm. State the situations/applications where this is suitable.

Or

14. With example, explain iterative deepening A* algorithm.

15. Explain Mini-Max algorithm. What are its important properties ?

Or

16. Explain alpha-beta pruning with example. Why it called so ? What are its properties ?

17. With two examples, explain semantic method for theorem proving.

Or

18. (a) What is meant by "soundness" and "completeness" of resolution algorithm ?

(b) Represent the following statement using predicate logic. Indicate your assumptions.

Some boys like Vanilla ice-creams.

19. (a) Represent each of the following pieces of knowledge by a semantic net :

(i) Loves (Mary, John).

(ii) Loves (Mary, John) ∧ Hates (John, Nitha).

(iii) Loves (Mary, John) → Hates (Nitha, John).

(b) What are the important abstract data types in Prolog ?

Or

20. Explain semantic nets and frames in Prolog.

(5 × 12 = 60 marks)

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

CLIENT-SERVER COMPUTING (Elective II) (RT)

(Supplementary/Mercy Chance)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. What is Network Communication ?
2. Explain Heterogenous computing.
3. Explain mutual exclusion.
4. What is Multiprogramming ?
5. Write briefly on client server interaction management.
6. Define Critical Section.
7. Discuss the need for Client Server Computing.
8. Explain the uses of threads.
9. Give examples of client server implementation.
10. Write the need for interprocess communication.

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. (a) What are client-server databases ? Explain its uses.   (6 marks)
    (b) Explain cross platform computing.   (6 marks)

Or

12. Discuss the advantages and disadvantages of client-server computing.   (12 marks)

13. (a) Explain the process of Request acceptance dispatching and execution of requests in a client-server environment.

                                                         (6 marks)

    (b) Write briefly on client-server interaction using messages.   (6 marks)

Or

15. Describe the RPC mechanism implementation in detail.

Or

16. Explain design and implementation issues of distributed shared memory.

17. Briefly explain the taxonomy of load balancing algorithms.

Or

18. Explain the process migration on Heterogenous systems.

19. Explain the transaction recovery methods.

Or

20. Briefly explain the prevention of deadlock in distributed system.

(5 × 12 = 60 marks)

F 3337   (Pages : 2)   Reg. No...............................

Name..............................

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Computer Science and Engineering / Information Technology

NEURAL NETWORKS (Elective III) (R, T)

(Supplementary/Mercy Chance)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. What are the basic building blocks of an ANN?

2. Differentiate between training and learning processes.

3. What is a feed forward network? Give example.

4. What is temporal instability?

5. Compare the characteristics of full CPN and forward only CPN.

6. What is Kohonen learning rule?

7. Explain how Bayesian classification rule is used in statistical neural networks.

8. What is simulated annealing.

9. What is pattern association.

10. What are the two types of learnings in ART net?

$$(10 \times 4 = 40 \text{ marks})$$

Part B

Answer all questions.
Each question carries 12 marks.

11. Explain with diagrams the activation functions used in ANN.

Or

12. Draw the architecture of a multilayer perceptron and explain its training algorithm.

13. Derive the generalized delta learning rule.

Or

14. Discuss in detail the training algorithm used in back, propagation network.

15. Draw and explain the architecture of a full CPN.

Or

16. Explain the training and application algorithms used for forward only CPN.

17. State and explain the simulated annealing algorithm.

Or

18. Discuss on the role of statistical methods for the solution of nonlinear optimization problems.

19. What are the training algorithms used for pattern association?

Or

20. Explain the architecture of ARTI network. Also explain the computational and supplemental units.

(5 × 12 = 60 marks)

F 3339

(Pages : 2)

Reg. No...................1 copy............

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B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Computer Science and Engineering / Information Technology

BIOMETRICS (Elective III) (RT)

(Supplementary/Mercy Chance)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. Differentiate between verification and identification.

2. What is false match rate? Explain its significance.

3. What is a platen?

4. What are the strengths of facial scan?

5. What are the weaknesses of iris scan?

6. Explain the data acquisition process in voice scan.

7. Describe the distinctive features of hand-scan biometric.

8. Explain how AFIS and finger-scan differ.

9. Is DNA a biometric?

10. Write a note on biometric middlewave.

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. Discuss the steps involved in biometric matching.

Or

12. Discuss the features which cause false non-match in biometrics. Explain the methods to avoid such situations.

Turn over

13. How is image processed in Finger scan technology? Explain in detail.

Or

14. Explain in detail the changes in physiological characteristics that reduce matching accuracy in facial scan technology.

15. Discuss on the competing iris-scan technologies.

Or

16. Explain the different characteristics of voice biometrics for network security.

17. Explain the working of hand-scan biometric technology.

Or

18. Explain in detail the principle of working of a behavioural biometric system.

19. Discuss on the applications of biometrics.

Or

20. Explain the role of biometric solution matrix in the deployment of biometrics for authentication problems.

(5 × 12 = 60 marks)

F 3253

(Pages : 2)

Reg. No................................

Name....................................

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Information Technology

INFORMATION SYSTEMS AND MANAGEMENT (T)

(Supplementary/Mercy Chance)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. What is meant by System Approach of Management ?

2. Describe the Concept of Productivity.

3. What is meant by Decision assisting Information system ?

4. Discuss the importance decision rule in management.

5. What are the basic components of an MIS ?

6. Write a note on 'detailed system design'.

7. What are the major benefits of ERP ?

8. Discuss the role of consultants in ERP.

9. Describe the concept of Data warehousing.

10. Discuss the need for Knowledge Management.

(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. (a) What is Expectancy Model of Motivation ? How does it differ from Operant Conditioning Model ?

Or

(b) Explain the situation model of Leadership. Discuss its limitations.

12. (a) What are the components of a computer based information system ? Explain the role of each of them.

Or

(b) What are the advantages of having a company wide data bank ? Show how different functions can be integrated with a data bank.

Turn over

13. (a) What are the different factors to be considered in Forms Design ?

Or

   (b) Describe the process of establishing system constraints with an example.

14. (a) What is the relationship between ERP and Knowledge Management ? Discuss.

Or

   (b) Explain the salient features of SAP ERP package.

15. (a) Explain how Data Mining is utilised for Decision Support.

Or

   (b) Describe the process of decision-making. What is meant by knowledge based decision support ?

(5 × 12 = 60 marks)

F 3264   (Pages : 2)   Reg. No..................................

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B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Information Technology

E-COMMERCE (T)

(Supplementary/Mercy Chance)

Time : Three Hours   Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 marks.

1. What are Business to business transactions ?

2. What are middle ware services ?

3. What are the advantages of e-checks ?

4. Briefly describe the types of EFT.

5. What are value added networks ?

6. Write notes on EDI gateways.

7. What are the advantages of data warehouses ?

8. Explain work flow automation.

9. Differentiate between lossy and lossless compression schemes.

10. Differentiate between frame relay and cell relay.

                                        (10 × 4 = 40 marks)

Part B

Answer **all** *questions.*
Each question carries 12 marks.

11. Discuss the internet as the Architecture for e-commerce.

Or

12. Discuss the e-commerce organisational applications.

13. Explain the considerations in designing e-payment systems.

Or

14. Discuss the risks in e-payment schemes and methods to manage them.

15. What is meant by an EDI envelope ? Discuss any one type.

Or

16. Discuss the various types of financial EDI.

17. What is supply chain management ? Discuss how e-commerce solution can be useful therein.

Or

18. What are digital documents ? Discuss the various types of digital documents.

19. Describe some of the techniques for compressing moving pictures and still pictures.

Or

20. Discuss mobile and wireless computing.

(5 × 12 = 60 marks)

F 3304 (Pages : 2) Reg. No..................................

Name..................................

B.TECH. DEGREE EXAMINATION, DECEMBER 2012

Eighth Semester

Branch : Information Technology

HIGH PERFORMANCE COMPUTING (Elective II) [T]

(Supplementary/Mercy Chance)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Part A

Each question carries 4 marks.

1. Explain how languages affect data flow computer in achieving parallelism.
2. Write briefly on the parallel computer structures.
3. Explain the concept of associative array processing.
4. What do you mean by pipelining ?
5. Compare loosely coupled and tightly coupled multiprocessors.
6. Compare static and dynamic pipeline.
7. Explain the relevance of parallel processing.
8. Explain the concept of data driven computing.
9. What is an Array Processor ?
10. Explain the need for synchronism in a multiprocessor environment.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain in detail the classical computer memory hiearchy, with a neat figure.

Or

12. Explain the architectural classification schemes based on parellelism.

13. (a) Explain the need for pipelining. (6 marks)
    (b) Explain the classification of pipeline processors. (6 marks)

Or

14. Explain the architecture of Crey 1 vector processor.

15. (a) Explain the need of interconnection networks. (6 marks)

(b) Explain the different interconnection networks in detail, with neat sketches. (6 marks)

Or

16. Write briefly on :

(a) SIMD matrix multiplication. (6 marks)

(b) Parallel sorting on array processors. (6 marks)

17. Explain in detail, about process synchronisation mechanisms in a multiprocessor environment.

Or

18. Explain how communication is carried out in a loosely coupled and tightly coupled multiprocessor system.

19. (a) Explain a dataflow computer. (6 marks)

(b) Explain the architecture of static data flow computer. (6 marks)

Or

20. Discuss the design alternatives used in dataflow approach.

[5 × 12 = 60 marks]