

G 1198

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Computer Science/Information Technology

SECURITY IN COMPUTING (RT)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. What is the definition of Computer security ? What are the major components of computer security ?
2. What is Denial of Service attack ? Explain.
3. What are the major security threats in Operating System ? Explain.
4. What is an access control list ? What is the purpose of using it ?
5. Explain any one Polyalphabetic substitutions technique.
6. What are the important features of modern symmetric key algorithms ?
7. Why Kerberos are used in computer network ? Explain.
8. What are the key algorithms used in S/MIME ?
9. What is meant by sensitive data ? Give an example.
10. How providing privileges in database provides security for data ? Explain.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. What are the main challenges of computer security ? Explain.

Or

12. Explain various security services required to provide better computer security.
13. What is the purpose of using capability list ? What are its advantages ? Explain.

Or

Turn over

14. What are the various types of Authentication mechanisms supported for Operating System ? Explain.
15. With the help of diagram, explain the Fiestel structure for encryption and decryption of messages.

Or

16. In what way, hash functions provides a method for message authentication ? Explain in detail.
17. Explain IP security architecture for Internet Protocol.

Or

18. Explain various security mechanisms provided in JAVA platform. Compare it with other platforms.
19. What are the security issues which needs to be addressed in database systems ? Explain with an example for each.

Or

20. What are discretionary access control and Mandatory access control ? What are its relevance in database security ? Compare with its advantages and disadvantages.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Computer Science and Engineering

CS 010 801—HIGH PERFORMANCE COMPUTING (CS)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. State Amdahl's law.
2. Mention the principles of linear pipelining.
3. Write the features of Mesh connected networks.
4. Give the advantages in using non-uniform memory access model.
5. What is meant by grain packing and scheduling in parallel processing ?

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. List any *five* contributions of Indians to parallel processing.
7. What is meant by interleaved memory organisation ? Explain.
8. Write a note on circuit and packet switching protocols.
9. Distinguish between loosely coupled and tightly coupled multiprocessors.
10. Briefly explain about data flow computers.

(5 × 5 = 25 marks)

Turn over

Part C

Answer all questions.
Each question carries 12 marks.

11. Explain any two architectural classification schemes in detail.

Or

12. Elaborate on the different parallel computer structures.

13. Discuss about arithmetic pipelines with necessary examples and diagram.

Or

14. Demonstrate how internal forwarding enhances the performance of computers with examples.

15. Explain masking and data routing mechanisms in SIMD array processor with diagram.

Or

16. Discuss about the different parallel algorithm in SIMD architectures.

17. Describe the different bus arbitration algorithm in multiprocessors.

Or

18. Elaborate on the interprocess communication mechanism used in multiprocessor architectures.

19. Explain the following :—

(i) Data driven computers.

(ii) Data flow languages.

Or

20. Discuss the influences of dataflow in conventional architectures.

(5 × 12 = 60 marks)

B.TECH. DEGREE EXAMINATION, MAY 2016**Eighth Semester**

Branch : Computer Science and Engineering/Information Technology

CS 010 802/IT 010 802—ARTIFICIAL INTELLIGENCE—(CS, IT)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A*Answer all questions.**Each question carries 3 marks.*

1. What do you mean by variables and statements in python ?
2. Describe the operations of problem reduction.
3. Discuss forward chaining algorithm with example.
4. Write an algorithm for candidate elimination with example.
5. What do you mean by fuzzy number ?

(5 × 3 = 15 marks)

Part B*Answer all questions.**Each question carries 5 marks.*

6. What are the various problem characteristics ?
7. Write down AO* algorithm.
8. Write a note on resolution in propositional logic.
9. What do you mean by version spaces ?
10. What do you mean by explanation in expert system ?

(5 × 5 = 25 marks)

Turn over

Part C

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

11. Explain the following :

- (a) Steepest-ascent hill climbing.
- (b) Functions in python.

Or

12. Briefly explain lists in python.

13. Briefly explain alpha-beta pruning.

Or

14. Describe the following :

- (a) Constraint satisfaction.
- (b) Games as search problem with example.

15. Write a brief note on the following :

- (a) Backward chaining.
- (b) Question Answering.

Or

16. With suitable example, describe an algorithm for converting a well-formed formula into conjunctive normal form.

17. Briefly explain ID3 decision tree induction algorithm.

Or

18. Explain the following :

- (a) Decision trees.
- (b) Chunking.
- (c) Rote learning.

19. Briefly explain the following :

- (a) Operations on fuzzy sets.
- (b) Membership functions in fuzzy set.
- (c) Discrete fuzzy sets.

Or

20. Explain expert systems. What is an expert system shells ?

(5 × 12 = 60 marks)

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B.TECH DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Computer Science and Engineering

CS 010 803—SECURITY IN COMPUTING—(CS)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. Define security attacks.
2. What do you mean by Avalanche effect ?
3. Differentiate between direct and arbitrated digital signature.
4. What are the services provided by IP Sec ?
5. What do you mean by Biba integrity model ?

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Briefly explain symmetric cipher model.
7. Explain briefly about prime factorization.
8. Write note on hash functions.
9. What are the different functions provided by S/MIME ? Explain.
10. Explain password selection strategies and their significance.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each question carries 12 marks.

11. What is meant by security services ? Explain different categories of security services.

Or

12. What is meant by transposition cipher ? Explain rail fence cipher and row transposition ciphers with example.

Turn over

13. With a neat sketch, explain about the DES encryption and decryption process with the internal structure of a single round of DES algorithm.

Or

14. Explain the key management of public key encryption in detail.

15. Write down and explain SHA-512 algorithm.

Or

16. Discuss the overview of Kerberos. Explain Simple Authentication Dialogue and More Secure Authentication Dialogue, in Kerberos Version 4.

17. What is PGP ? What are the services provided by PGP ? Explain.

Or

18. What is meant by firewalls ? Discuss about different types of firewalls.

19. Define Intrusion Detection. Explain in detail about the various types of detection mechanisms.

Or

20. What are Security models ? Explain different types of Security models.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Computer Science and Engineering

CS 010 804 L01—E-COMMERCE (Elective III) (CS)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. What is E-Commerce ?
2. What are the major messaging security issues ?
3. Write short note on digital payment requirements.
4. What is open EDI ?
5. Write short note on desktop video conferencing.

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Write note on hypertext publishing.
7. Explain the role of firewalls in network security.
8. Write note on smart cards.
9. Explain the types of digital documents.
10. Write short note on video servers and E-Commerce.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each full question carries 12 marks.

11. Explain the architectural framework for E-Commerce.

Or

12. Write note on e-commerce consumer and organization applications.

Turn over

13. Explain order management cycle in E-Commerce.

Or

14. Explain client-server network security.

15. Write note on different electronic payment systems.

Or

16. Explain digital token based electronic payment system.

17. Explain supply chain management.

Or

18. Explain EDI architecture in detail.

19. Write note on switched multimegabit data service.

Or

20. Explain multimedia in E-Commerce.

[5 × 12 = 60 marks]

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B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Computer Science and Engineering

CS 010 804 L05—MOBILE COMPUTING (Elective III) [CS]

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. Define the term trunking.
2. What is wireless communication system ?
3. Mention the advantages and disadvantages Adhoc network.
4. What do you know about snooping ?
5. Write a short note about WTA.

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Discuss about WLL architecture.
7. What are the DECT characteristics ?
8. Explain about Frame structure of Bluetooth.
9. Give some points about Transmission of mobile TCP.
10. Mention the WAP-integration of WAP components.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each question carries 12 marks.

11. Explain about broadcasting in detail.

Or

12. What are new technologies used in cellular system ? Explain in detail about it.

Turn over

13. Explain about the GSM service and signal processing.

Or

14. Compare and contrast LEO and MEO.

15. Compare the standards of IEEE802.11 and IEEE.802.16.p

Or

16. Briefly explain about ATM Radio function.

17. Discuss about Traditional TCP.

Or

18. Discuss about the DHCP abbreviates and explain the functions of it.

19. Elaborate the term WTA with architecture in detail with neat diagram.

Or

20. What is a WML script ? Explain about the script programming.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Computer Science and Engineering

CS 010 805 G01—MULTIMEDIA TECHNIQUES (Elective IV) (CS)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. What is multimedia ? What are the main components of multimedia ?
2. Explain the popular file formats.
3. Define Animation.
4. Explain Huffman coding.
5. Briefly explain Precision and Recall.

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Explain Images data types.
7. What are the different types of MIDI messages ?
8. Briefly explain Run length coding.
9. Explain TV trees.
10. Write short notes on Vocoder.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each question carries 12 marks.

11. Explain Color models in images and video.

Or

12. Explain transform coding and wavelet based coding.

Turn over

13. Describe ADPCM in speech coding.

Or

14. Write a note on arithmetic coding.

15. Explain MPEG.

Or

16. Explain JPEG -LS standard.

17. Explain Image processing segmentation.

Or

18. Explain content based retrieval of image.

19. Describe the latent semantic indexing.

Or

20. Explain architecture of a Multimedia database.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

CS 010 805 G02/IT 010 805 G05—NEURAL NETWORKS (Elective IV) (CS, IT)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer **all** questions.

Each question carries 3 marks.

1. What is the difference between human intelligence and machine intelligence ?
2. What are multilayer perceptrons ?
3. What are the applications of Radial Basis Function networks ?
4. What are the various ways to realize competition in neural networks ?
5. What is pattern association ?

(5 × 3 = 15 marks)

Part B

Answer **all** questions.

Each question carries 5 marks.

6. Why we need pattern classification ?
7. Explain temporal stability.
8. How to train RBF networks ? Explain.
9. What is a counter propagation network ?
10. Give an example for hetero associative networks.

(5 × 5 = 25 marks)

Turn over

Part C

Answer all questions.

Each question carries 12 marks.

11. Compare the performance of a computer and that of a biological neural network in terms of speed of processing, size and complexity, storage, fault tolerance and control mechanism.

Or

12. Explain McCulloch-Pitts model of neuron.

13. Briefly explain Back propagation algorithm in detail.

Or

14. Derive the Back propagation algorithm for regression.

15. What is under fitting and over fitting ? Explain prevention mechanisms for the same.

Or

16. Explain learning with momentum and conjugate gradient learning.

17. Explain Maxnet fixed weight competitive networks.

Or

18. Explain the application and architecture of full counter propagation network.

19. Briefly explain the algorithm for hopfield networks.

Or

20. What is the purpose of using bidirectional associative memory ? Explain.

(5 × 12 = 60 marks)