

G 5180

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch—Computer Science and Engineering/Information Technology

SECURITY IN COMPUTING (R T)

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. What are Firewalls ?
2. Explain Encryption and Decryption.
3. Explain Hackers.
4. What is a Hash function ?
5. Explain the features of secure socket layer.
6. What is a worm ?
7. Compare RSA and DES algorithms.
8. Define Authentication.
9. What is the need for Network security ?
10. Explain Hole.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain the different types of attacks, in detail. **(12 marks)**

Or

12. (a) Explain the different aspects of Network security. **(6 marks)**
(b) Write a note on security services and mechanisms. **(6 marks)**
13. (a) Write briefly on Discretionary and mandatory Access control. **(6 marks)**
(b) Explain the different Authentication mechanisms. **(6 marks)**

Or

Turn over

14. Discuss the security features for authentication, access control and remote execution in UNIX. (12 marks)
15. (a) Explain Digital signature. (6 marks)
 (b) Explain RSA algorithm. (6 marks)
- Or*
16. (a) Explain the important features of modern symmetric key algorithms. (6 marks)
 (b) Explain the concept of Cryptography. (6 marks)
17. Write short notes on :
- (a) E-mail security. (6 marks)
 (b) S/MIME. (6 marks)
- Or*
18. Explain the functioning of Kerberos server. (12 marks)
19. Explain Database security. Discuss the different security issues involved. (12 marks)
- Or*
20. Write briefly on :
- (a) Statistical database security. (6 marks)
 (b) MAC for multilevel security. (6 marks)
- [5 × 12 = 60 marks]

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B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch : Computer Science and Engineering

HIGH PERFORMANCE COMPUTING (R)

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. What is parallel processing ? Explain.
2. Explain briefly a multiprocessor system.
3. With diagram explain the principle of Linear pipelining.
4. Explain about dynamic pipelines.
5. List some of the static network topologies also give a brief description.
6. With diagram explain logic design of a typical cell in an associative memory.
7. What is a monitor ? Explain its functions.
8. Explain with diagram a single bus multiprocessor organization.
9. Bring out clearly the advantages and disadvantages of data flow computers.
10. Explain some applications of data flow computers.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. Explain in detail the basic uniprocessor architecture.

Or

12. With diagram explain the architectural configuration of array computers.
13. Discuss the design of pipelined instruction units.

Or

14. What is meant by instruction prefetch and branch handling ? Explain in detail.
15. With diagram explain a cube inter-connection networks.

Or

16. Explain SIMD matrix multiplication.

Turn over

17. With diagram explain a tightly coupled multiprocessor.

Or

18. Describe in detail the performance of inter-connection Networks.

19. With diagrams explain Data flow computers architectures.

Or

20. Explain systolic array architecture.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch : Computer Science and Engineering

PRINCIPLES OF PROGRAMMING LANGUAGES (R)

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. What are virtual computers?
2. What are the roles of a programming language?
3. What are the purpose of declaration.
4. Define data structure.
5. Define abstract data types.
6. Explain brieflyh what are subprograms.
7. Differentiate public and private keywords.
8. What is an abstract class?
9. What are semaphores?
10. Explain how task management is done.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. Explain the classes of binding times.
- Or*
12. Describe the effects of environment on language design.
 13. What are data types? Explain the elements of specification of data types.
- Or*
14. What are the issues on implementing data structure types?

Turn over

15. Which are the types of storage management?

Or

16. Describe the sequence control between statements.

17. Describe in detail polymorphism.

Or

18. Explain the implementation of call-return sub program.

19. Explain in detail how exception is handled.

Or

20. Explain in detail the concept of parallel programming.

(5 × 12 = 60 marks)

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Name.....

B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

ARTIFICIAL INTELLIGENCE (R, T)

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Give two different applications for AI.
2. Explain Bi-directional search.
3. Define Heuristics.
4. What do you mean by Hill climbing?
5. Mention the advantages of alpha-beta pruning.
6. State the advantages of frames.
7. Define modus ponens.
8. What is the significance of Knowledge?
9. Explain Evaluation.
10. What is Recursive search?

(10 × 4 = 40 marks)

Part B

Answer one question from each module.

Each question carries 12 marks:

11. (a) Explain problem characteristics and depth limited search.
Or
(b) Explain : (i) Uniform cost search ; (ii) Constraint satisfaction search.
12. (a) Explain : (i) Iterative deepening ; (ii) Simulated annealing.

Or

Turn over

(b) Explain A * algorithm.

13. (a) Draw a game tree and explain Mini-Max with alpha beta pruning.

Or

(b) Draw two Semantic networks and explain its features and advantages.

14. (a) Explain the steps in Resolution method.

Or

(b) Explain and compare forward reasoning and backward reasoning.

15. (a) Explain alternative search strategies.

Or

(b) Describe Semantic nets and frames in Prolog.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch : Computer Science and Engineering

E-COMMERCE (Elective II) [R]

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. Explain the various consumer access devices.
2. List out the various transport providers for information delivery. Briefly explain them.
3. What are the goals in inventory management ?
4. Explain what are middle-ware services.
5. Write notes on RSA.
6. What are smart cards ? Explain.
7. Explain what is IIS.
8. Write notes on active documents.
9. What is cell relay ? What are its advantages ?
10. Write notes on ISDN.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain the major functions of supply chain management.
Or
12. Discuss the anatomy of e-commerce applications.
13. What are the common security threats to servers ? Discuss how these are addressed in practice.
Or
14. Explain in detail how public key and private key encryption systems work.

Turn over

15. Discuss in detail the various risks associated with e-payment system.

Or

16. Explain the principles and properties of various electronic tokens.

17. Explain the software implementation schemes for EDI.

Or

18. Discuss the various types of digital documents in detail.

19. Discuss how frame relay works. Highlight its advantages and disadvantages. Show how it is different from packet switching.

Or

20. Write notes on (i) ATM ; (ii) Mobile computing.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch—Computer Science and Engineering/Information Technology

CLIENT SERVER COMPUTING (R, T) [Elective II]

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

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

1. What are the uses of client server computing ?
2. What is a socket ? Explain.
3. Explain the functions of protocols.
4. How do a client-server model is designed ?
5. Explain the life cycle of a thread.
6. What is a process ? Draw the transition diagram of process states.
7. Explain the functions of semaphores.
8. Explain how synchronization can be achieved.
9. Explain interprocess messages.
10. What is the use of mail boxes in interprocess communication ? Explain.

(10 × 4 = 40 marks)

Part B

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

11. Explain the following :—

- (i) Hetrogeneous computing.
- (ii) Client server Databases.

(6 marks)

(6 marks)

Or

12. Write notes on :

- (i) Client-server computing.
- (ii) Distributed computing.

(6 marks)

(6 marks)

Turn over

13. Describe in detail how will you manage the interaction of client and server.

Or

14. Write notes on :

(i) Optimizing applications for client server.

(6 marks)

(ii) Client-server implementation.

(6 marks)

15. Discuss pre-emptive and non-pre-emptive multi-tasking.

Or

16. Describe the steps for developing server applications.

17. Explain briefly context switching pre-emptive systems.

Or

18. Discuss the semaphore implementation in windows NT.

19. Explain different types of Network communication systems.

Or

20. How will you build a portable client server applications ?

[5 × 12 = 60 marks]

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B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch: Computer Science and Engineering/Information Technology

DISTRIBUTED COMPUTING (Elective II) [RT]

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. What is the difference between access transparency and concurrency transparency ?
2. Differentiate between monolithic Kernel and microkernel approaches for designing a distributed operating system.
3. Write a note on DNS.
4. In the design of distributed file system high availability and high scalability are mutually related properties. Discuss.
5. What are the main similarities and difference between RPC model and ordinary procedure call model.
6. Describe the basic approaches used for implementing mutual exclusion in distributed system.
7. What are the main difference between load balancing and load sharing approaches for process scheduling in distributed systems.
8. Discuss the various models for organizing threads.
9. Differentiate wait die and wait wound scheme.
10. Define transaction recovery.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. Discuss the various network technologies and communication protocols.

Or

12. Describe the following :—

- (a) MACH system architecture.
- (b) Ameoba system architecture.

Turn over

13. Explain SUN NFS architecture.

Or

14. Explain the following :—

(a) The file service interface.

(b) The directory server Interface.

15. Explain what is meant by absolute ordering, consistent ordering and causal ordering of messages. Give a mechanism to implement each one.

Or

16. (a) Differentiate between PRAM and processor consistency.

(b) Propose a suitable replacement algorithm for DSM system whose shared memory space is structured as objects.

17. Discuss the issues in designing load sharing algorithms.

Or

18. Write notes on (a) process migration mechanisms ; (b) Thread scheduling.

19. Give examples to show that the edge chasing algorithm (without priorities) could detect phantom deadlocks.

Or

20. Explain the following :—

(a) Byzantine failures.

(b) Fault tolerance using active replications.

(5 × 12 = 60 marks)

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B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch : Computer Science and Engineering

MULTIMEDIA SYSTEMS [Elective-III] (R)

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Define objects for multimedia systems.
2. Explain the role of authoring tools in multimedia.
3. What are sound cards? Explain.
4. What is animation? Describe methods of controlling it.
5. What is interactive CD? Explain its working.
6. What is meant by multimedia extension?
7. What is format classes? Explain.
8. Explain about database integration.
9. What is meant by virtual reality?
10. Write the advantages and applications of desktop video conferencing.

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each full question carries 12 marks.

11. Describe the hardware and software applications of multimedia.

Or

12. Describe the following media types :

(a) Audio.

(b) Video.

(c) Text.

(3 × 4 = 12 marks)

Turn over

13. (a) Explain JPEG components and methodology.
(b) Describe JPEG, DIB file format for still and motion images.

(6 + 6 = 12 marks)

Or

14. (a) Explain MPEG audio file with its frame format.
(b) Discuss about video file format AVI, MOU and real video.

(6 + 6 = 12 marks)

15. Describe the technical background, frames, tracks, areas, blocks and advantages of CD-DA technology.

Or

16. (a) What is Quick time? Define and explain.
(b) What is Quick time Movie File (QMF) format? Explain with an example.

(4 + 8 = 12 marks)

17. Describe the following :

- (a) Lip synchronization.
(b) Pointer synchronization.
(c) Media synchronization.

(3 × 4 = 12 marks)

Or

18. Explain the following :

- (a) Transform classes.
(b) Problems related to synchronization.

(6 + 6 = 12 marks)

19. (a) Explain the design issues in video conferencing.
(b) Describe the scheduling and polling mechanism in multimedia networks.

(6 + 6 = 12 marks)

Or

20. Write short notes on :

- (a) Video capture.
(b) Future multimedia.

(6 + 6 = 12 marks)

[5 × 12 = 60 marks]

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B.TECH. DEGREE EXAMINATION, MAY 2013

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

BIOMETRICS (Elective III) [RT]

(Regular/Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. What is the difference between recognition verification and identification ?
2. What is crossover rate ? What is its significance ?
3. What are the causes of FTE in finger-scan ?
4. Explain the distinctive characteristics of facial scan.
5. Explain the advantages of iris-scan.
6. Differentiate between speech recognition and voice scan.
7. What are the limitations of hand scan ?
8. Discuss on the template matching process in signature scan.
9. What is biometric solution matrix ?
10. Explain why biometric standards are required ?

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain with a block diagram the architecture of a typical biometric system.

Or

12. Explain the performance matrices used in biometrics technology.
13. Describe the technologies used for acquiring quality finger scan templates.

Or

14. Explain with diagrams the principle of operation of facial scan.
15. What are the steps involved in iris-scan biometrics system ?

Or

16. Discuss on the merits and demerits of voice-scan biometric system.

Turn over

17. What are the strength and weakness of retina-scan as a biometric system.

Or

18. Explain the working of signature scan system.

19. Explain how biometric solution matrix helps in deploying biometrics for specific applications.

Or

20. Explain the ways by which the risk of privacy of biometric systems is mitigated.

(5 × 12 = 60 marks)