F 6637 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2017

Eighth Semester

Branch : Computer Science Engineering

CS 010 801—HIGH PERFORMANCE COMPUTING (CS)

(New Scheme—2010 Admission onwards)

[Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

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

1. State Amdahl's law.
2. Write a note on the three classes of data dependent hazards.
3. Compare single stage and multistage dynamic networks.
4. Brief the assumptions made in the analysis of the performance of interconnection networks.
5. What is meant by data dependency ? Give example.

(5 × 3 = 15 marks)

Part B

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

6. Brief the impact of balancing system bandwidth in an uniprocessor system.
7. What is meant by Internal forwarding ? Explain its types.
8. Define array processing. Why SIMD array computers are called as array processors.
9. Compare loosely coupled multiprocessors with tightly coupled multiprocessors.
10. Write the basic concepts of dataflow computing.

(5 × 5 = 25 marks)

Turn over

Part C

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

11. With neat sketches, explain the three architectural configurations of parallel computers.

Or

12. Describe Flynn's classification scheme with diagrammatic illustration.

13. Illustrate multiple shift pipelined multiplier with an example.

Or

14. Discuss how instruction prefetch and branch handling supports the design of pipeline processors.

15. Elaborate the various interconnection networks suggested for SIMD computers with neat sketches.

Or

16. Describe a parallel matrix multiplication algorithm for SIMD computers and derive its complexity.

17. Discuss the desirable architectural features for a processor to be effective in multiprocessing environment.

Or

18. Explain the functions of crossbar switches for multiprocessors.

19. Identify the division of dataflow computers depending on handling data tokens and explain with diagrams.

Or

20. Discuss dynamic data flow computers with necessary diagram.

(5 × 12 = 60 marks)

F 6663 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2017

Eighth Semester

Branch : Computer Science and Engineering

CS 010 803—SECURITY IN COMPUTING (CS)

(New Scheme—2010 Admission onwards)

[Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *question.*

Each question carries 3 *marks.*

1. Explain spoofing and snooping attacks.
2. What are the major issues to be handled in key management ?
3. What is authentication ?
4. What is a gateway ? What are its functions ?
5. What is a computer virus ?

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*

Each question carries 5 *marks.*

6. With an example, explain the advantages and disadvantages of Transposition ciphers.
7. Explain the concept of public key cryptography.
8. Explain about X.509 certificate.
9. Distinguish between application level and circuit level gateways.
10. What are the mechanisms used for file protection ? Explain.

(5 × 5 = 25 marks)

Turn over

Part C

Answer **all** *questions.*

Each full question carries 12 *marks.*

11. Explain any *two* traditional cipher techniques, along with an example.

Or

12. What are the various kinds of attacks to be considered in computer networks ? Explain.

13. Explain the key generation process in RSA algorithm.

Or

14. Briefly explain any *one* key management technique in detail.

15. Explain any secure hash algorithm.

Or

16. What is the need for digital signature ? Explain its process in detail.

17. How to provide security for Electronic mail ? Explain.

Or

18. How to encapsulate security payload ? Explain.

19. Briefly explain Bell-La Padula confidentiality model.

Or

20. Explain various types of viruses and its countermeasures.

(5 × 12 = 60 marks)

F 6688 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2017

Eighth Semester

Branch : Computer Science and Engineering

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

(New Scheme—2010 Admission onwards)

[Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 3 *marks.*

1. Discuss the role of Internet Service Providers in E-commerce.
2. Briefly explain the working of a Payment Gateway.
3. Briefly differentiate between HTML and XHTML.
4. Discuss the different models of E-Commerce.
5. What is MIME ? What are the four different header fields defined in the MIME specification ?

(5 × 3 = 15 marks

Part B

Answer **all** *questions.*

Each question carries 5 *marks.*

6. Write a note on the architectural framework of electronic commerce.
7. What is Just-in-time manufacturing ? Explain.
8. Discuss the different types of Client-Server threats on a network.
9. List the various kinds of digital documents.
10. Briefly discuss the concepts of the Video-conferencing technology.

(5 × 5 = 25 marks)

Turn over

Part C

Answer **all** *questions.*

Each full question carries 12 *marks.*

11. Write a detailed note on Switched Multimegabit Data Service.

Or

12. What are frame and cell relays ? Discuss the advantages and disadvantages of frame relays. Explain the structure of a frame.

13. Explain the process of designing Electronic Payment Systems in detail.

Or

14. Write a note on digital token based Electronic Payment Systems. Explain the main components and their role, with a neat diagram.

15. What are the EDI standards developed for business ? What are the legal, security and privacy issues involved ?

Or

16. What is Financial EDI ? Discuss the working of various types of financial EDI.

17. Briefly discuss the Mercantile Process Model from Merchant's and consumer's perspective.

Or

18. What is a smart card. Briefly discuss the main components of a smart card, as per its type, with a neat diagram.

19. What is workflow automation and co-ordination achieved in electronic business systems ? Explain.

Or

20. What is SCM ? With a neat diagram explain the concept of push and null based SCM.

(5 × 12 = 60 marks)

F 6730 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2017

Eighth Semester

Branch : Computer Science and Engineering

CS 010 805 G 01—MULTIMEDIA TECHNIQUES (Elective IV) [CS]

(New Scheme—2010 Admission onwards)

[Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

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

1. What are authoring programs ? Brief the functionalities of any two ?
2. Draw the coding tree for the word MAHATMA using Shannon–Fano algorithm.
3. List the operational modes of JPEG standard and brief any one.
4. Suggest three ways in which audio analysis can assist in video retrieval system related tasks.
5. State the principle of uniformity in multimedia databases.

(5 × 3 = 15 marks)

Part B

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

6. Write the features of macromedia director.
7. Compare and contrast uniform and non-uniform scalar quantization.
8. Describe about any two scalabilities supported by MPEG-2.
9. Explain image segmentation with a simple example.
10. Identify the different measures for text retrieval.

(5 × 5 = 25 marks)

Part C

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

11. Discuss GIF file format and its components with a neat diagram.

Or

12. Draw the structure of MIDI messages and explain the concept behind MIDI.

Turn over

13. (i) Explain arithmetic coding with an example of your choice.

(ii) Apply LZW dictionary based compression to encode the message ABBABAS.

(6 + 6 = 12 marks)

Or

14. (i) Discuss transform coding using Haar wavelets with a simple example.

(ii) Assume a quantization threshold of 32 and derive the quantization error for each of the following DCT coefficients 127 72 67 78 – 64 – 118.

(6 + 6 = 12 marks)

15. Elaborate on video coding using MPEG-2 with necessary diagram.

Or

16. Write notes on (i) psycho acoustics ; (ii) audio codecs.

(6 + 6 = 12 marks)

17. Explain the steps involved in relevance feedback model.

Or

18. Discuss the methods to stone images for efficient retrieval.

19. Describe latent semantic indexing with suitable examples.

Or

20. Discuss the architecture of multimedia database with a neat diagram.

[5 × 12 = 60 marks]

F 6732 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2017

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

CS 010 805 G04/IT 010 805 G01—SOFTWARE ARCHITECTURE—(Elective IV) [CS, IT]

(New Scheme—2010 Admission onwards)

[Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

Each question carries 3 *marks.*

1. What is data abstraction ?
2. Explain quantified design space.
3. What are formal methods ?
4. What is the requirement for Architectural description languages ?
5. What is type checking ?

(3 × 5 = 15 marks)

Part B

Answer **all** *questions.*

Each question carries 5 *marks*

6. Explain pipes and filter architectural styles.
7. What is a design space ?
8. What are various types of formal specification ?
9. How to add implicit invocation to traditional programming languages ?
10. What are the main features of UniCon ?

(5 × 5 = 25 marks)

Turn over

Part C

Answer **all** *questions.*

Each full question carries 12 *marks.*

11. Briefly explain about the repository architectural style.

Or

12. Write a note on :

    (a) Interpreters.

    (b) Event based implicit invocation.

13. Explain the functional design dimensions for user interface architecture.

Or

14. With an example, explain how to apply design space.

15. Write a note on :

    (a) Filters.

    (b) Formalizing architectural design space.

Or

16. With an example, explain formalizing architectural style.

17. Briefly explain about the critical elements of a design language for software architecture.

Or

18. Write a note on :

    (a) Software system composition.

    (b) Connectors.

19. Explain how to implement primitive components ?

Or

20. Write a short note on :

    (a) Architectural interconnections.

    (b) Encapsulation.

(5 × 12 = 60 marks)