(M)

G 1320 (Pages : 2) **Reg. No**.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2018

Eighth Semester

Branch : Information Technology

IT 010 801—WIRELESS COMMUNICATION (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 FDMA ? Explain its process.
2. What are orthogonal codes ? What is the purpose of using it ?
3. What is the purpose of the Equipment Identity Register (EIR) ?
4. What is IMS ?
5. List Wireless Local Loop (WLL) products.

(3 × 5 = 15 marks)

Part B

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

6. Explain uplink closed loop power control system.
7. Explain convolution codes in detail.
8. What is the purpose of using Visitor Location Register (VLR)? Explain the content of VLR subscriber data.
9. Explain Teleservices in detail.
10. What are the main features of 4G technology ?

(5 × 5 = 25 makrs)

Turn over

Part C

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

11 What is soft handover ? Explain its process in detail.

Or

12 What are the functions to be handlet by physical layer of Wideband Air Interface. Explain.

13 Explain Packet Data Coverage (PDC) protocol in detail.

Or

14 What are the various functions of Medium Access Control (MAC) ? Explain.

15 Describe location services with respect to UMTS network for the following : (i) Cell coverage based method ; (ii) Observed time difference of arrival.

Or

16 What are the components of BSS subsystem ? Explain the functions of each in detail, along with a necessary block diagram.

17 Explain Streaming services and background services for QoS in UMTS.

Or

18 What are the various issues of TCP over multimedia applications ? Explain how RTP overcomes those issues.

19 Describe DVB-H in detail with respect to its necessity and functions.

Or

20 What is the purpose of Wireless Local Loop (WLL) ? Explain its architecture with necessary block diagram.

(5 × 12 = 60 marks)

(M1)

G 1348 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2018

Eighth Semester

Branch : Information Technology

IT 010 802—CRYPTOGRAPHY AND NETWORK SECURITY (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. State the reasons for using modular arithmetic in Cryptography with examples.
2. Why double DES is not preferred in encryption ?
3. Present the need for digital signatures in security.
4. Write the functions of S/MIMF.
5. Identify the three classes of intruders and write a note on them.

(5 × 3 = 15 marks)

Part B

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

6. Write the steps to find the multiplicative inverse in modular arithmetic using Euclidean algorithm. Find the inverse of 550 mod 1759 using the same.
7. Give the procedure to expand the single encryption key to produce keys for the 10 rounds in AES.
8. What is HMAC ? State its design objectives and highlight its advantages over MAC.
9. Brief the technical deficiencies present in Kerberos version 4.
10. What is meant by digital immune system ? Illustrate the steps involved using a diagram.

(5 × 5 = 25 marks)

Turn over

Part C

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

11. (i) Given 2 as a primitive root of 29, construct a table of indices and use it to solve the congruences $x^2 - 4x - 16 = 0 \bmod 29$.

    (ii) Discuss Miller Rabin primality testing algorithm with an example.

(6 + 6 = 12 marks)

Or

12. (i) Write short notes on Abelian groups.

    (ii) Describe Pohlig–Hellman method for discrete logarithm. Explain the algorithm for a system with $p = 29$ and $\alpha = 2$ and $\beta = 18$. Assume the other necessary parameters.

13. (i) Explain encryption and decryption process in a classical Feistal network.

    (ii) Discuss the poly alphabetic ciphers with simple examples.

(8 + 4 = 12 marks)

Or

14. Examine the potential location for confidentiality attacks and explain the approaches for placing encryption functions.

15. Elaborate the four general schemes to distribute public keys.

Or

16. (i) In an elliptic curve over Z_{17}, two points P and Q are identified as P = (5, 8) and Q = (0, 6). Find P + Q and (– P).

    (ii) Discuss elliptic curve cryptography key exchange and encryption/decryption algorithm in detail.

(4 + 8 = 12 marks)

17. What are the *five* principal services provided by pretty good privacy (PGP) ? Explain.

Or

18. With a neat sketch, explain encapsulating security payload of IP security.

19. Discuss the basic techniques for password selection and explain how a password can be protected in UNIX.

Or

20. Explain the concept of trusted system with an example.

(5 × 12 = 60 marks)

G 1383 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2018

Eighth Semester

Branch : Information Technology

IT 010 804 L01—SOFTWARE TESTING (Elective III) [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. Distinguish between an error and a fault with a relevant example.
2. What is thread testing ? Explain.
3. What is a test policy ? Explain its significance.
4. What is the V model of Software ?
5. List the various types of review.

(5 × 3 = 15 marks)

Part B

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

6. What is boundary value analysis ? Explain with an example.
7. What are test scripts and test files ? Why are they required ?
8. Explain the concept of correctness and completeness with examples.
9. Discuss the various testing standards.
10. Describe the defect management process.

(5 × 5 = 25 marks)

Part C

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

11. Discuss functional testing and structural testing techniques in detail.

Or

12. Explain top-down and bottom-up software integration with a suitable example.

Turn over

13. Write a detailed note on the criteria used to evaluate fault based adequacy.

Or

14. What is acceptance testing ? Write a note on the acceptance testing criteria and the different types of acceptance tests.

15. Briefly discuss the methods used for estimating the expected impact of a defect identified in a software with examples.

Or

16. Describe the different methods of verification and validation used in the software testing process.

17. Consider that you are developing the billing software for a client owning a supermarket. Briefly explain the techniques employed for requirement testing, design testing, code review and unit testing in the context of the software under development, giving examples.

Or

18. Consider that you are developing the billing software for a client owning a supermarket. Briefly explain the techniques employed for module testing, integration testing, system testing and sandwich testing in the context of the software under development, giving examples.

19. How is the effectiveness of software testing process measured ? Explain the techniques and metrics used for this measurement in detail.

Or

20. Explain the following :

    (a) Sensitivity.

    (b) Redundancy.

    (c) Visibility.

    (d) Restriction.

    (e) Partition.

(5 × 12 = 60 marks)

(M)

G 1423 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2018

Eighth Semester

Branch : Information Technology

IT 010 805 G04—ELECTRONIC BUSINESS AND SERVICES (Elective–IV) [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 electronic commerce and how does it differ from traditional commerce ?
2. What is public key encryption ? Why is it important in E-Commerce ?
3. How does a certifying authority performs its tasks ?
4. What is Credit Card Fraud Detection ?
5. List of activities which are covered by the intellectual property rights.

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*

Each question carries 5 *marks.*

6. What are the benefits of EDI ?
7. What is a firewall ? What are the functions of a firewall ?
8. Explain SET protocol used in credit card transactions.
9. Write a brief note on two stage CCFD using sequence alignment.
10. What are the amendments brought in the I.T. Act.

(5 × 5 = 25 marks)

Turn over

Part C

Answer **all** *questions.*

Each full question carries 12 *marks.*

11. Discuss the different classification of electronic commerce.

Or

12. Explain the basic building blocks of an EDI system with suitable diagram.

13. What are the main differences between DES based encryption and RSA based encryption ? Is it possible to combine these two systems ? If so explain how ?

Or

14. What is a digital signature ? Why is it necessary in E-Commerce ? What are the necessary conditions a hash function used in digital signature should satisfy ?

15. What types of electronic payment systems are required in E-Commerce ? Why are there different types of payment systems ? Explain the necessary characteristics of each type of payment system and give an example each of where it is used.

Or

16. Explain how cash transactions take place in E-Commerce. What special precautions should be taken by a bank to ensure that a customer does not double spend the same electronic coins issued to him/her ?

17. Discuss the traditional approaches and the recent advances in CCFD.

Or

18. Describe the architecture of BLAST and SSAHA Fraud Detection System with neat diagram.

19. Explain video on demand system in detail.

Or

20. Describe the strategy used by designers of web sites for getting a page added in search engines, and getting it ranked high for target keywords.

(5 × 12 = 60 marks)