UG–378 **BSCS–15**

B.Sc. DEGREE EXAMINATION — DECEMBER, 2019.

Third Year

Computer Science

DATA COMMUNICATIONS AND NETWORKING

Time : 3 hours Maximum marks : 75

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What are the Components that are part of Data Communications?

2. Write about Analog and Digital Data?

3. Pen down the characteristics of Transmission Media - "Radsowaves"?

4. Write a note on functions of Repeaters as a Communication device?

5. Explain about Routers?

6. Write in short about Infrared?

7. In general, What are the types of connections in Physical Structure of Networks?

SECTION B — ($5 \times 10 = 50$ marks)

Answer any FIVE questions.

8. List out and explain the Types of Networks?

9. What are the layers in OSI model? Explain.

10. Explain about the guided media- Twisted pair cable.

11. Write about IPv4 addressing in detail?

12. Illustrate the Fibre optic cable?

13. Describe the TCP/IP protocol suite?

14. Elaborate the connecting device "Bridge?

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UG-379 **BSCS-16**

B.Sc. DEGREE EXAMINATION – DECEMBER 2019.

Third Year

Computer Science

INTRODUCTION TO OPERATING SYSTEM

Time : 3 hours Maximum marks : 75

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Give short notes on Operating system?

2. Explain the functions of race condition?

3. List the various resources of dead lock.

4. Mention the working of Mutual exclusion in inter-process communication?

5. State the characteristic of files briefly?

6. Sketch the structure of directory with its key points?

7. Write a note on critical sections?

SECTION B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Discuss in detail about system calls.

9. Explain the Round-robin algorithm with example.

10. Describe the working of shortest job first algorithm

11. Illustrate how the deadlock be detected and recovered.

12. Portray the steps involved in deadlock prevention.

13. Pen down the multiprogramming without swapping or paging?

14. Explain about disk space management.

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UG–380 **BSCS–17**

B.Sc. DEGREE EXAMINATION — DECEMBER 2019.

Third Year

Computer Science

JAVA PROGRAMMING

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Write short notes on: Data types in Java.
2. Give the syntax of switch statement and explain with suitable example.
3. Explain the concept method overriding with suitable example.
4. Write short notes on Applet Life Cycle.
5. Discuss about type casting with examples.
6. Explain the usage of any two commonly used string methods with examples.
7. Explain Life Cycle of a thread.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Discuss briefly about Lexical Issues.

9. Write a Java Program to find the sum of the following Harmonic series for a given value of n: 1+1/2+1/3+.....+1/n.

10. Explain about Exception Handling in Java with examples.

11. Explain about creating packages and accessing a package with examples.

12. Explain the usage of any five AWT controls with suitable examples.

13. What is meant by single inheritance? Explain with an example.

14. What do you understand by inter Thread Communication? Explain.

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UG–381 **BSCS–18**

B.Sc. DEGREE EXAMINATION – DECEMBER 2019.

Third Year

Computer Science

HTML AND WEB DESIGN

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. List any five basic tags. Give an example for each basic tag.

2. Give the general Structure of HTML for designing the webpage with an example.

3. Write a program Using image tag.

4. Briefly explain the basic tags of table with an example.

5. Discriminate on rowspan and colspan with an example.

6. Illustrate with an example on the title bar and menu bar in frontpage.

7. Write short notes on search engine.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain advanced text formatting.

9. Enumerate on the absolute and relative URLs.

10. Explain the Image formatting with examples.

11. Describe cellpadding and cell spacing with an example.

12. Detail it – Front page.

13. Discriminate on channels push technology

14. Design a web page for a college.

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UG–382 **BSCS–19**

B.Sc. DEGREE EXAMINATION – DECEMBER, 2019.

Third Year

Computer Science

INTRODUCTION TO SOFTWARE ENGINEERING

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Expand RAD and explain it.

2. Describe Prototyping.

3. Explain People and Product.

4. Briefly explain mitigation.

5. Discriminate on task set for the software project.

6. Illustrate with an example on cohesion.

7. Write short notes on coupling.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain phases in software development.

9. Enumerate on the fourth generation techniques.

10. Explain COCOMO estimation model.

11. Discuss on resources.

12. Describe quality assurance activities.

13. Differentiate black box and white box testing.

14. Detail it–Integration testing.

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UG–383 **BSCS–20**

B.Sc. EXAMINATION —
DECEMBER, 2019.

Third Year

Computer Science

Elective II – NETWORK SECURITY

Time : Three hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain Passive Attacks.

2. Describe symmetric Encryption Scheme.

3. Write on (a) Stream Cipher (b) Block Cipher.

4. Give the representation of Reversible mapping and Irreversible mapping in Feistel cipher structure for n=2.

5. Explain (a) plain text (b) Encryption Algorithm (c) Public and private keys (d) Cipher text (e) Decryption Algorithm.

6. Explain Authentication requirements.

7. Bring out the types of functions that are used to produce an authentication and explain those.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain X-800 security services.

9. Illustrate the Network security model.

10. Explain Feistel cipher structure with neat Illustration.

11. Elucidate in Differential Cryptanalysis.

12. Explain (a) public Announcement of public keys (b) publicly available Directory

13. Detail it – Man- in- the Middle Attack.

14. Public – key encryption – Elaborate.

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UG - 384 **BSCS - 21**

B.Sc. DEGREE EXAMINATION — DECEMBER, 2019.

Third Year

Computer Science

Elective II – SOFTWARE TESTING

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Describe about boehm's quality model.

2. Explain about correctness and defects of software testing.

3. Explain briefly about the testing objectives.

4. Discuss briefly about the testing life cycle.

5. Compare functional Vs non-functional testing.

6. Describe briefly about test metrics.

7. What are the difference between black box and white box testing?

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Discuss elaborately on software quality.

9. Describe about quality model.

10. Give a detail note on software testing overview.

11. Explain about debugging and testing.

12. Describe about the non-functional testing types.

13. Discuss about test maturity model.

14. Describe elaborately on types of automated test.

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UG–385 **BSCS–22**

B.Sc. DEGREE EXAMINATION – DECEMBER, 2019.

Third Year

Elective — Computer Science

COMPILER DESIGN

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What is regular expression? Explain the rules of framing regular expressions.

2. Discuss briefly about the symbol table.

3. What is left recursion? Explain the algorithm for eliminating it with suitable grammars.

4. Write down the rules for computing FIRST and FOLLOW in Parsing.

5. What are types of intermediate code in intermediate code generation?

6. Explain about loop optimization.

7. Write short note on dead code elimination.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain the phases of compiler with a neat diagram.

9. Discuss about conversion of regular expression to automata with suitable example.

10. Explain shift reduce parsing with neat example.

11. Explain the model of predictive parsing. Give neat algorithm for predictive parsing and constructing the parse table.

12. Discuss about the address code, quadruples and triples with suitable example.

13. Explain about DAG representation of basic block

14. Explain about principles source of optimization techniques.

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UG–386 **BSCS–23**

B.Sc. DEGREE EXAMINATION — DECEMBER, 2019.

Third Year

Computer Science

TCP / IP PROGRAMMING

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer Any FIVE questions.

1. Write a note on difference between the TCP and UDP.
2. Describe briefly about subnet addressing.
3. Explain in detail about structure of TCP?
4. What are top level internet domain names? Give justification for www.tnou.ac.in.
5. What are the features of UDP?
6. What is IP routing? Discuss briefly about IP routing algorithm.

7. What are the general characteristics of IP multicasting?

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain in detail about Domain Name System.

9. Explain TCP/IP layer architecture with a neat diagram.

10. What are IP routing protocols? Give elaborate discussion about RIP routing protocol.

11. Explain the following

    i. IP address structure

    ii. TCP header

    iii. Firewalls

12. Explain the following

    i. Subset mask

    ii. Features of TCP

13. Write brief note on socket interface.

14. Discuss in detail on TCP/IP over ATM networks.

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UG-387 **BSCS-24**

B.Sc. DEGREE EXAMINATION – DECEMBER 2019.

Third Year

INTRANET ADMINISTRATION

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What are advantages of Intranet?

2. Discuss briefly on Threads.

3. Give brief note on Database connectivity.

4. Describe briefly about virtual private network.

5. Explain briefly on Web graphics.

6. Describe briefly about network management.

7. Explain briefly on

   (a) FTP

   (b) UDP Service Protocols.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Give discussion on security solutions.

9. Explain Intranet Fundamentals in detail.

10. Discuss about Security tools in detail.

11. Explain about network environment in detail.

12. Give elaborate discussion about Intranet Management tools.

13. Discuss about network administration and installation.

14. Explain briefly about Service protocols and Web Server specific Protocols.

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