

B.Sc. DEGREE EXAMINATION, APRIL 2011**First Semester****Information Technology****PRINCIPLES OF INFORMATION TECHNOLOGY**

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define the term Computer.
2. What do you mean by Communication System ?
3. Define : Database.
4. What do you meant by homepage ?

5. Define Telnet.
6. Specify the uses of MODEM.
7. Define Database.
8. List any *two* storage media.
9. Define Compiler.
10. What are the functions loader ?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the various generation of computers.

(Or)

(b) Write a short on ethics of Information Technology.

12. (a) Write down the features of word processor package.

(Or)

(b) Explain the usage of presentation software.

13. (a) Distinguish between Digital and Analog signal .

(Or)

(b) Write a short note on EDI.

14. (a) Write down the features of magnetic tape.

(Or)

(b) Write down the functions of file management system.

15. (a) Explain the features of good programming language.

(Or)

(b) What is an Information system? Discuss in brief.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. What are the six elements of computer system? Discuss in brief.

17. What is an internet ? Explain the various applications of internet.

18. Shortly describe about LAN. Briefly discuss about video conferencing.

19. What is DBMS ? Discuss about various types of DBMS.

20. Discuss the six phases of system analysis and design.

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B.Sc. DEGREE EXAMINATION, APRIL 2011

Second Semester

Information Technology

PROGRAMMING IN C AND DATA STRUCTURES

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List out the four basic data types.
2. How do variables and symbolic names differ ?
3. Explain how the arrays are initialised ?
4. Explain the need for pointers.

5. Define a 'union' data type.
6. Explain how structure is initialized.
7. Name various ways of representing stacks in 'C'.
8. Explain how a list is represented using arrays in C.
9. Explain the representations of a Binary tree briefly.
10. Name the two applications of a Binary tree.

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain relational operation available in C with an example.

(Or)

(b) What is meant by a library function ? Explain.

12. (a) What is meant by concatenation ? Explain.

(Or)

(b) Explain the use of pointer variables.

13. (a) Explain with example, the array of structures.

(Or)

(b) Write short notes on :

(i) `putc`

(ii) `fscanf`

14. (a) Write an algorithm to delete an element from a QUEUE.

(Or)

- (b) Explain how STACK is utilised in the conversion of expressions.

15. (a) State the conditions to form a Binary tree.

(Or)

- (b) Explain the Header nodes and Threads of a tree briefly with an example.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write a 'C' program to find the roots of a Quadratic equation of the form $ax^2 + bx + c = 0$.

17. Explain the difference between Static and Dynamic memory allocation in detail.

18. Write a C' program to read a sequential file and delete the 50^m record, where actually the file consists of 100 records in total.

19. Write an algorithm to convert an infix expression into its equivalent postfix expression.

20. Explain the linked representation of Binary trees in detail.

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B.Sc. DEGREE EXAMINATION, APRIL 2011

Third Semester

Information Technology

PROGRAMMING IN C++ AND ALGORITHMS

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define the terms : Class, Objects.
2. What do you mean by friend function ?
3. Define Destructor.
4. What is a parameterized constructor ?

5. What do you mean by pure virtual function ?
6. Define inheritance.
7. What do you mean by backtracking ?
8. Compare depth-first with breadth-first.
9. What is longest-Common sequence problem ?
10. What for Dijkstra's algorithm ?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the Switch statement with example.

(Or)

- (b) How can you make an outside function inline ?
Explain.

12. (a) Write down the characteristics of constructors.

(Or)

- (b) Write a C++ program to illustrate the use of copy constructor.

13. (a) Describe the concept of multilevel inheritance with example.

(Or)

- (b) Write a C++ example program to overload a unary operator.

14. (a) Write a program to perform Binary search.

(Or)

(b) Write a program to perform insertion sort.

15. (a) Explain the Prim's algorithm.

(Or)

(b) Write a note on Huffman code.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss about the following :

(a) Array of objects.

(b) Objects as function arguments.

17. Explain about multiple constructors in a class with suitable example.
18. Write a C++ program to illustrate the use of multiple inheritance.
19. Discuss in detail about quick sort.
20. What is coin changing problem ? How do you apply Kanaspack technique to solve it ?

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B.Sc. DEGREE EXAMINATION, APRIL 2011

Fourth Semester

Information Technology

DATABASE MANAGEMENT SYSTEM

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define DBMS.
2. What is mapping cardinality ?
3. When is a domain atomic ?
4. Define Snapshot.

5. What is meant by response time ?
6. Define Range query.
7. Give the advantages of indexes.
8. List the uses of synonyms.
9. What are the uses of packages ?
10. Define Trigger.

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Describe the different attribute types.

(Or)

(b) Explain the various data models.

12. (a) Discuss the Armstrong's axioms.

(Or)

(b) What are the uses of attributes closure algorithm ?

13. (a) Compare Page shipping and Item shipping.

(Or)

(b) Define Scaleup. What are the different types of scaleup ?

14. (a) Write down the SQL statement for creating a table and explain it.

(Or)

- (b) What are the uses of views ?

15. (a) Discuss the PL/SQL data types.

(Or)

- (b) Write notes on transactions.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the major disadvantages of file processing systems.

17. Write notes on BCNF.

18. Explain the various network types.

19. Write note on sequences and user privileges.

20. With an example, explain stored procedures.

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B.Sc. DEGREE EXAMINATION, APRIL 2011**Fifth Semester****Information Technology****JAVA PROGRAMMING**

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What is the relationship between objects and classes ?
2. Define Bytecode.
3. What is a compound relational expression ?
4. List the different segments of a program loop.

5. What is meant by instantiating an object ?

6. How would you create a variable size array ?

7. What is the advantage of packages ?

8. What is meant by concurrency ?

9. Define Remote applet.

10. Name the method which is used to fetch the information about the current font.

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) List any *five* features of object oriented paradigm.

(Or)

- (b) What is a literal ? List the different types of literals.

12. (a) Describe the different logical operators.

(Or)

- (b) Draw and explain the flowchart of the If ... Else ... statement.

13. (a) Define Methods overloading. Give an example.

(Or)

(b) Explain any *two* commonly used String Buffer methods.

14. (a) Describe any *five* Java system packages and their classes.

(Or)

(b) What is synchronization ? When should we use it ?

15. (a) How are applets different from applications ?

(Or)

(b) Describe the various sections of a web page.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write notes on the Data types.
17. Explain type conversion in expressions.
18. Describe the different types of inheritance.
19. Explain how multiple inheritance can be achieved through interfaces.
20. List any *ten* types of exceptions that might occur in Java. Give examples.

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B.Sc. DEGREE EXAMINATION, APRIL 2011**Fifth Semester****Information Technology****E-COMMERCE**

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are information transport providers ?
2. What is supply chain management ?
3. Differentiate between Hypertext and Hypermedia.
4. What is e-cash ?

5. What is the role of EDI in International Trade ?
6. What is EDIFACT ?
7. Define : Advertising.
8. What are the two types of micromarketing ?
9. What is IRC ?
10. What are the types of Software Agents ?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Write down the applications of Internet.

(Or)

(b) Describe the components of I-way.

12. (a) What are the categories of internet data and transactions ? Explain.

(Or)

(b) What are the advantages of Electronic checks ? Explain.

13. (a) Write down the benefits of EDI.

(Or)

(b) What is MIME ? What are the advantages and disadvantages ?

14. (a) What is information filtering ? Explain.

(Or)

(b) Write a note on VRML.

15. (a) Write a short note on Digital copyrights and Electronic commerce.

(Or)

(b) What are the components of a Software Agent ? Explain.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain about the anatomy of E-commerce Applications.

17. Discuss about the world wide web as architecture.

18. Explain briefly about the Value added networks.

19. Describe the two types of Push-based Advertising.

20. Discuss about the components of education on-demand.

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BITE1A

B.Sc. DEGREE EXAMINATION, APRIL 2011

Fifth Semester

Information Technology

Elective—DATAMINING AND DATA

WAREHOUSING

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define : Data warehouse.
2. What do you mean by data extraction ?
3. What is the responsibility of event manager ?

4. List out the three different data warehouse process manager.
5. Define the term “ Data mining ”.
6. What do you mean by clustering ?
7. What is information retrieval ?
8. What metrics are used in data mining queries ?
9. What do you mean by partitioning ?
10. Define : Large itemset.

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain the technical blueprint phase of data warehouse architecture.

(Or)

- (b) Describe the components of load manager architecture.

12. (a) Write down features of scheduling software.

(Or)

- (b) What do you mean by tuning the data load ? Discuss.

13. (a) Write down the implementation issues associated with data mining.

(Or)

(b) What are the social implications of data mining? Explain.

14. (a) Write a note on Fuzzy sets.

(Or)

(b) Write a brief note on Genetic Algorithm.

15. (a) Explain incremental rules.

(Or)

(b) Describe parallel and distributed algorithm.

Part C

(3 × 10 = 30)

Answer any **three** of the questions.

16. Discuss the architecture of warehouse manager.

17. Write a brief note on capacity planning.

18. Give details on Data mining verses knowledge discovery in databases.

19. Explain about OLAP and web search engine.

20. Discuss about Sampling algorithm.

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B.Sc. DEGREE EXAMINATION, APRIL 2011

Fifth Semester

Information Technology

**Elective—MULTIMEDIA TECHNOLOGY AND ITS
APPLICATIONS**

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the elements of multimedia ?
2. Write down the characteristics of briefing products.
3. What are the functions of an operating system ?

4. Define : Typeface.

5. What do you mean by resolution ?

6. Expand :
 - (a) CLUT.
 - (b) JPEG.

7. What is digital video ?

8. Define : Frame rate.

9. What is HTML ?

10. Define the term “ protocol ”.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the two basic classes of reference products? Explain

(Or)

- (b) Describe the three general categories of Education and Training products.

12. (a) How computers handle multimedia? Explain.

(Or)

- (b) What are the various CD-ROM formats? What formats are most commonly used in everyday applications?

13. (a) How graphics are stored in the computer? Explain.

(Or)

(b) How digital audio issued in multimedia products? Explain.

14. (a) What are the types of analog video? Describe

(Or)

(b) How multimedia products are organized? Explain.

15. (a) What are the types of controls for multimedia tools? Explain

(Or)

(b) Describe the overview of web publishing process.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the various applications of Multimedia.
17. Discuss the elements of Text.
18. What are the different Graphic file formats ? Discuss.
19. Describe the functions of Digital video software.
20. How to choose the best tool for a multimedia project ?
Discuss.

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B.Sc. DEGREE EXAMINATION, APRIL 2011**Fifth Semester****Information Technology****Elective—COMPUTER NETWORKS**

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What are the two types of transmission technology ?
2. What is full-duplex and half-duplex transmissions ?
3. Explain, what flow control means as related to data link layer.

4. Define Stop-and-wait protocol.
5. Define the Flooding algorithm.
6. What is broadcasting with reference to computer networks ?
7. Write the structure of the TSAP address.
8. What are the various flags in TCP header ?
9. What is the main difference between Traditional cryptography and Modern cryptography ?
10. What is the role of SMTP in the e-mail system ?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Write a detailed note on WAN.

(Or)

(b) Discuss the two types of coaxial cables.

12. (a) With an example, explain the Hamming code error- correcting method.

(Or)

(b) Discuss the CSMA/CD protocol.

13. (a) With illustration, explain the distance vector routing algorithm.

(Or)

(b) Explain how do IP addresses get mapped onto data link layer addresses.

14. (a) Write a detail note on Berkeley Sockets.

(Or)

(b) Describe the various fields of the TCP header.

15. (a) Depict the general encryption model.

(Or)

(b) Describe the asymmetries between encoding and decoding algorithms

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the TCP/IP reference model.

17. Describe the HDLC data link protocol.

18. Explain the token bucket algorithm for congestion control.

19. With example, explain the usage of transport service primitives.

20. Write a note on the following :
 - (a) DNS.
 - (b) Transposition ciphers.

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B.Sc. DEGREE EXAMINATION, APRIL 2011

Fifth Semester

Information Technology

Elective—COMPUTER GRAPHICS

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What are flat-panel display ?
2. What is the use of the error term in Bresenham's line drawing method ?
3. Define Translation as related to computer graphics.

4. Write the two methods that are used to avoid gaps in general curves ?
5. What is clipping as related to computer graphics ?
6. What are the conditions to be satisfied for a point $p(x, y)$ to be inside a window ?
7. Write the matrix representation of 3-D translation.
8. How do you represent a point in 3-D ?
9. Give an example for a JCL command.
10. What two kinds of objects are associated with the user's model ?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Describe the basic components of a plasma display.

(Or)

- (b) Write a note on the following input devices :

(i) Track ball.

(ii) Joystick.

12. (a) Explain the basic 2-D rotation, scaling and mirror reflection.

(Or)

- (b) What is the relationship between the rotations R_{θ} , $R_{-\theta}$ and R_{θ}^{-1} ?

13. (a) Explain windowing and viewing transformation in detail.

(Or)

- (b) Explain the Cohen Sutherland line clipping algorithm.

14. (a) Explain the concatenated transformation.

(Or)

- (b) Write a note on 3-D composite transformation.

15. (a) Describe the points to be noted while designing the user's model.

(Or)

- (b) Describe the three principal forms of feedback.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe Bresenham's general line drawing algorithm.

17. Perform a 45° rotation about the origin of triangle A (0, 0), B (1, 1) and C (5, 2).

18. Explain the Sutherland-Hodgman algorithm for polygon clipping.

19. Explain 3-D transformation with their matrix representation.

20. Elucidate the principal issues associated with the command language design.

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B.Sc. DEGREE EXAMINATION, APRIL 2011

Sixth Semester

Information Technology

MANAGEMENT INFORMATION SYSTEMS

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Section A

(10 × 2 = 20)

Answer **all** questions.

1. Differentiate Information and Data.
2. What are the Physical Components required for an Organizational Information system ?
3. Name any four Procedure Oriented Languages.
4. Define Transaction Processing.
5. What are the phases in the Decision-making process ?

6. Define Deterministic and Probabilistic Systems.
7. Define Decision Support Systems.
8. What do you mean by knowledge work ?
9. Define Data Dictionary.
10. What are the classification of users ?

Section B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on Organizational Function and Activities Subsystems.

(Or)

- (b) Describe about Hierarchy of Management Activity.

12. (a) Briefly explain about various Data Representation for Computers.

(Or)

(b) Describe about Computer-Based Message Systems.

13. (a) Write short notes on Decision Making under Psychological Stress.

(Or)

(b) Explain about the concepts of Human Cognition and Learning.

14. (a) Describe about Expert Systems.

(Or)

(b) Write short notes on End-User Computing.

15. (a) What are the strategies for determining Information requirements ? Explain.

(Or)

(b) Describe about Normalisation in Database Design.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain in detail about the Operating Elements of an Information System.

17. Describe in detail about File organizations.

18. Write detailed notes on Information Presentation and Quality of Information.

19. Explain about the approaches to development of Decision support systems.

20. Describe about the considerations in design of a User Interface.

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BIT6C2

B.Sc. DEGREE EXAMINATION, APRIL 2011

Sixth Semester

Information Technology

MOBILE COMMUNICATION

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is signal ?
2. What is Modulation ?
3. What is CDMA ?
4. What is GEO ?
5. What is ad-hoc network ?

6. Write Motivation for WATM.
7. What is Routing ?
8. What is Congestion Control ?
9. What is World Wide web ?
10. What is Hyper Text Markup Language ?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What is Multiplexing ? Explain it.

(Or)

- (b) Explain about Cellular Systems.

12. (a) Explain in detail about FDMA.

(Or)

(b) Write short notes on Digital Audio broadcasting.

13. (a) Write short notes on HIPERLAN.

(Or)

(b) Explain the functions of Radio Access Layer.

14. (a) Explain Dynamic Host Configuration Protocol.

(Or)

(b) Discuss about types of routing.

15. (a) Explain about File Systems.

(Or)

(b) Explain about wireless datagram Protocol.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain in detail about different types of Modulation.

17. Discuss about CDMA and GSM.

18. Explain about Blue tooth.

19. Explain about Mobile Transport Layer.

20. Discuss about Wireless Application Protocol.

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BIT6C3

B.Sc. DEGREE EXAMINATION, APRIL 2011

Sixth Semester

Information Technology

WEB DESIGN TECHNOLOGY

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is HTML ?
2. What is frame ?
3. Write syntax for if structure.
4. Explain logical operators.
5. What is the use of function in Java Script ?

6. What is array ?
7. What is Dynamic HTML ?
8. Write the use of wave filter.
9. What is scaling ?
10. What is IMG element ?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about header and linking with examples.

(Or)

- (b) Discuss about nested and ordered list.

12. (a) Explain while structure with an example.

(Or)

(b) Explain do/while structure with an example.

13. (a) Explain recursion with an example.

(Or)

(b) What is the use of Math Object ? Explain with an example.

14. (a) Explain about the following :

(i) Flip filter.

(ii) Image filter.

(Or)

(b) Discuss about Advanced filters.

15. (a) Discuss about shape Primitives.

(Or)

(b) Discuss about Path Control in Dynamic HTML.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss in detail about tables and formatting with examples.

17. Write Java Script Program to Perform Arithmetic operations.

18. Explain in detail about Java Script Objects.

19. Explain in detail about events in Dynamic HTML.

20. Explain the following :—

(a) BG sound element.

(b) IMG element.

(c) EMBED element.

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BITE3A

B.Sc. DEGREE EXAMINATION, APRIL 2011

Sixth Semester

Information Technology

Elective—SOFTWARE ENGINEERING

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Section A

(10 × 2 = 20)

Answer **all** questions.

1. Define Software Engineering.
2. What are the Other Planning activities ?
3. Define Delphi Cost Estimation.
4. What do you mean by Recurrence Relations.
5. Define Aesthetics.

6. What are the guidelines to be followed for making good coding style ?
7. Define Verification and Validation.
8. Give any four examples for stress testing.
9. Define Quality.
10. What are the Sections in SQA Plan ?

Section B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Categorize the Project size and explain each.

(Or)

- (b) Write about developing a Solution strategy

12. (a) Describe about Work Breakdown Structures.

(Or)

(b) Briefly explain about the Axiomatic Specification of the LIFO.

13. (a) Describe about Structural Flowcharts and Structural English.

(Or)

(b) Briefly explain about Test Plans.

14. (a) Write short notes on the criteria for Completion of testing.

(Or)

(b) Describe about Configuration Management.

15. (a) Describe about Cost of quality.

(Or)

(b) Write about ISO 9001 Standard.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Write in detail about Project structure and Programming team Structure.

17. Explain in detail about estimating Software Maintenance Costs.

18. Write notes on the following with example :

(a) Single entry, Single exit Constructs

(b) Violations of Single Entry, Single Exit.

19. Explain in detail about integration testing.

20. Describe in detail about Formal Technical Review.

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BITE3B

B.Sc. DEGREE EXAMINATION, APRIL 2011

Sixth Semester

Information Technology

Elective—DIGITAL IMAGE PROCESSING

(CBCS—2008 onwards)

Time : 3 Hours

Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions.

1. What are the kinds of digital storage for image processing ?
2. What is city-block distance between two pixels.
3. Define : Fast Fourier Transform (FFT) Algorithm.
4. What is the purpose of Covariance matrix of the vector ?

5. Differentiate between Low pass spatial filtering and High - pass filtering
6. What is zero-order interpolation ?
7. What is truncated Huffman's Coding ?
8. What is bit-plane decomposition ?
9. What is 8-Directional chain code ?
10. What is Non-separable class ?

Section B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain why we need histogram specification ?

(Or)

- (b) Explain the types of Connectivity.

12. (a) Explain the film structure and its layers.

(Or)

(b) What is Walsh Transform ? Explain it.

13. (a) Explain the Butterworth filter.

(Or)

(b) What do you understand about Spatial transformations ?

14. (a) Explain the noiseless Coding theorem.

(Or)

(b) What is meant by thresholding ? Explain it with an example.

15. (a) How do you design shape numbers ?

(Or)

(b) How do you apply Boundary extraction ? Explain it with an example.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the fundamental steps in image processing.
17. Explain the Hadamard Transform with value of x and y .
18. Explain the concept of Color models.
19. Describe the Error-free Compression.
20. Describe the neural network application in Digital image processing.