A–8830

Sub. Code
4BIT2C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Information Technology

PROGRAMMING IN C AND DATA STRUCTURES

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is an expression in C language?
2. Specify any two control statements.
3. Mention the difference between *int a* and *int*a*.
4. How to declare pointer variable?
5. Write the general form of structure of *C*.
6. What is a file?
7. Define data structure with an example.
8. Give any two examples for queue.
9. Define binary tree.
10. Construct a Binary Tree for the given Data : 4 2 6 1 3 5 7.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain any two loop statements in C.

Or

(b) Explain Recursion with a simple program.

12. (a) What is an array? Explain its use.

Or

(b) Specify the advantages of pointers.

13. (a) Distinguish between structure and union.

Or

(b) State the general format to open and close a file in C.

14. (a) Explain the various operations of stack.

Or

(b) Explain singly linked list with an example.

15. (a) Write about binary tree representation of trees.

Or

(b) Discuss the basic operations of BST.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the different data types available in C with examples.

17. Write a program to find the product of two matrices.

18. How to create and processing a data file? Explain.

19. Explain infix, prefix and postfix notations with examples.

20. Explain threaded binary tree with suitable example.

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A–8831

Sub. Code
4BIT3C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Information Technology

PROGRAMMING IN C++ AND ALGORITHMS

(CBCS – 2014 onwards)

Time : Three Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define object.

2. What is member function?

3. What are destructors?

4. What do you mean by default arguments?

5. Define operator overloading.

6. What is this pointer?

7. Give the worst case of merge sort.

8. What do you mean by lower bound in sorting?

9. What is Huffman code?

10. What is Fibonacci number?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain function overloading with an example.

Or

(b) Explain the features of private member function.

12. (a) Write a note on parameterized constructor.

Or

(b) What do you mean by copy constructor? Explain.

13. (a) Illustrate multilevel inheritance.

Or

(b) What do you mean by abstract class? Explain.

14. (a) Discuss about depth-first search.

Or

(b) Describe the Quicksort procedure.

15. (a) Give the Kruskal's algorithm.

Or

(b) Describe the Dijkstra's algorithm.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about class declaration with examples.

17. Write a C++ program to implement constructor and destructor.

18. Discuss about virtual and pure virtual functions.

19. Describe the insertion sort and write an algorithm for the same.

20. Describe the Prim's algorithm with an example.

A–8832

Sub. Code
4BIT4C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

Information Technology

JAVA PROGRAMMING

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List out the various object oriented paradigm features.
2. Give any two applications of OOP's.
3. What is the precedence given to arithmetic operators?
4. Write a note on *else...if* ladder.
5. What is constructor?
6. What is an Array?
7. Write a note on naming convention for packages.
8. What is run-time error?
9. How will you add an applet to HTML?
10. How *arc* can be drawn in applet?

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain the Java program structure with simple example program.

Or

(b) Write a note on various types of constants in Java.

12. (a) Discuss the working of *switch....case* statement.

Or

(b) Write a java program to generate a triangle with '*'.

13. (a) Describe the way of declaring method in Java.

Or

(b) Explain the steps of creating an array.

14. (a) Write a note on creating and accessing package.

Or

(b) Explain the syntax of exception handling.

15. (a) Discuss the method of building applet code.

Or

(b) Explain the use of Circles and Ellipses commands in applet.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the various features of Java in detail.

17. Discuss the logical, assignment, incremental, detrimental and special operators of Java in detail.

18. Describe the various types of inheritance available in Java.

19. Write detail note on thread life cycle with neat diagram.

20. Write a Java program to draw the bar chart.

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A–8833

Sub. Code
4BIT5C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Information Technology

DATABASE MANAGEMENT SYSTEMS

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is known as DBMS?
2. Write the syntax of table creation in DDL.
3. Define first normal form.
4. What is called domain key normal form?
5. What is shared disk?
6. What do you know about I/O parallelism?
7. Define the term data integrity.
8. What is the use of views in a scheme objects?
9. Define cursor.
10. What is called stored procedure?

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) List out the database-system applications and explain.

Or

(b) Describe the E-R diagram design issues in a Entity-relationship model.

12. (a) Explain the design alternative with the smaller schemas in a relational database.

Or

(b) Prove that "closure of attribute sets" in a functional dependency.

13. (a) What is called a centralized computer system? Explain its process briefly.

Or

(b) Write short notes on parallel join in a parallelism.

14. (a) How to create a table? Explain with an example.

Or

(b) Discuss about "synonyms" in a schema object.

15. (a) What is called trigger? Explain about the functions of trigger.

Or

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

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the history of database systems.

17. Describe the BCNF decomposition with its algorithm.

18. Draw the structure and explain the transaction server process.

19. Discuss the users priviledges and roles in a schema object.

20. How transaction process done through the PL/SQL? Explain with an example.

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A–8834

Sub. Code
4BIT5C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Information Technology

VISUAL PROGRAMMING

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are Subroutines?
2. Why we need Data Types?
3. How can you create shortcut keys in Menu Editor?
4. List out the types of Combo Box Control.
5. Write the importance of RTF Language.
6. What are the important properties of MDI?
7. Define ODBC.
8. Differentiate ADO and DAO.
9. What is the purpose of Cwnd:BindProperty?
10. What do you mean by Versions?

Part B $(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. (a) What are variables? Why we need variables?

Or

(b) Give short notes on Named Arguments.

12. (a) How to manipulate menus at runtime?

Or

(b) Write a VB program to display name of the fruits.

13. (a) Explain the methods of Rich Text Box Controls.

Or

(b) Write a VB program to illustrate the concept of MDI.

14. (a) How can you connect front end with back end? Explain.

Or

(b) Explain how to design data report for student information.

15. (a) Explain the following :

(i) CWinApp

(ii) CExpect.

Or

(b) Describe the relationship between a document and its view.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write a VB program to find even and odd numbers from an array.

17. Write a VB program to accept input from the user in text box and add that text into the listbox by using command button.

18. How Common Dialog Controls used in VB? Explain in detail.

19. Explain ADODC Based Controls in VB.

20. Describe Dialogs and Message Maps in Visual C++.

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A–8835

Sub. Code
4BITE1B

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Information Technology

Elective – GRAPHICS AND MULTIMEDIA

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. When graphics is said to be interactive?

2. Define PIXEL.

3. Name any two transformations that can be applied to two dimensional objects.

4. What is meant by composite transformation?

5. How to define a Window?

6. Give the purpose of a Viewport

7. Where multimedia can be used?

8. List the elements of Text.

9. How a still image differs from a video image?

10. Name any two Audio File Formats.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss on the applications of computer Graphics.

Or

(b) How mouse acts as an input device?

12. (a) Mention the principles used in two dimensional transformation.

Or

(b) Give the matrix representation for the following two dimensional transformations (i) Translation and (ii) Scaling.

13. (a) How clipping can be applied for Line Segments?

Or

(b) Describe the technique of rotating a three dimensional object.

14. (a) How to market a multimedia project?

Or

(b) Give the salient features of Hyper text.

15. (a) Mention the importance of Digital audio system.

Or

(b) List the characteristics of digital video.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the algorithm for circle generation.

17. Whether rotation can be done at any arbitrary point for a two dimensional object? If so, discuss the algorithm for it.

18. Describe the Sutherland Hodgmen algorithm for clipping.

19. How to use text in multimedia applications?

20. Compare MIDI with digital audio.

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A–8836

Sub. Code
4BITE2A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Information Technology

Elective – COMPUTER NETWORKS

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Ethernet?

2. Write down the popular uses of the Internet for home users.

3. What are the services provided to the Network layer?

4. Define: HDLC.

5. How networks can be connected?

6. What is known as Tunneling?

7. Define RPC.

8. Write down the performance problems in Computer Networks.

9. Define SNMP.

10. What is HTTP?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Differentiate connection – oriented and connectionless services.

Or

(b) Write a brief note on Geostationary satellites.

12. (a) Explain about a one-bit sliding window protocol.

Or

(b) Give a short note on collision-free protocols.

13. (a) Describe the shortest path routing algorithm.

Or

(b) Write a note on fragmentation.

14. (a) Explain about the protocols for Gigabit networks.

Or

(b) Discuss briefly about the TCP service model.

15. (a) Describe the substitution ciphers.

Or

(b) Write a brief note on RSA.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write a detailed note on Network Hardware.

17. Describe about the sliding window protocols.

18. Write notes on the following :

    (a) Broadcast routing

    (b) Multicast routing.

19. Explain the elements of transport protocols.

20. Discuss in detail about the DNS name space its resource records and name servers.

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A–8837

Sub. Code
4BIT6C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Sixth Semester

Information Technology

SOFTWARE ENGINEERING

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Software Engineering.

2. List any two factors that influence software quality and productivity.

3. Define Software reliability.

4. State the use of Karnaugh map.

5. What is Abstraction?

6. What is the difference between structured flowcharts and traditional flowcharts?

7. What is meant by antibugging?

8. Define Software maintenance.

9. Define Software quality

10. What is the role of SQA Group?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe the skills most lacking in entry-level programmers.

Or

(b) Write short notes on Management by objectives.

12. (a) Explain Delphi Cost Estimation.

Or

(b) List out the rules for forming regular expressions.

13. (a) Explain Coupling and Cohesion.

Or

(b) List out and explain the Don'ts of good coding style.

14. (a) Write the guidelines that lead to a successful software testing strategy.

Or

(b) Explain Version control libraries.

15. (a) What are the components of cost of quality? Explain.

Or

(b) Explain the SQA plan.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the cost model of software life cycle.

17. Discuss about the format and contents of a Software Requirements Specification.

18. Describe Jackson structured programming.

19. Discuss the art of debugging.

20. Explain the guidelines for formal technical reviews.

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A–8838

Sub. Code
4BIT6C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Sixth Semester

Information Technology

CLOUD COMPUTING

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is virtualization?

2. List down the properties of Cloud Computing.

3. What is meant by SaaS?

4. Write down the types of cloud deployment models.

5. What is information privacy?

6. Define : Aneka.

7. List down any two advantages of cloud storage.

8. What is Map Reduce?

9. What does the name Nimbus mean?

10. Define : EC2.

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) State the essential characteristics of cloud computing.

Or

(b) Write short note on VMWare.

12. (a) Explain on-demand provisioning.

Or

(b) Describe about cloud providers.

13. (a) Discuss the four levels of federation.

Or

(b) What are the cloud security challenges? Explain.

14. (a) Write short notes on walrus.

Or

(b) Discuss cloud file system.

15. (a) Explain the open source cloud platform.

Or

(b) Describe about Open Nibula.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe the evolution of cloud computing.

17. Draw the three layer cloud computing architecture and explain.

18. Explain the tasks offered in Software as a security service.

19. Explain in detail about Amazon S3 services.

20. Discuss about EUCALPTUS with an example.

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A–8839

Sub. Code
4BIT6C3

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Sixth Semester

Information Technology

WEB PROGRAMMING

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is HTML?
2. How will you create a password field in a HTML form?
3. What is java script?
4. List out the built in objects in JavaScript.
5. Differentiate DHTML and HTML.
6. State the purpose of onmouseover event.
7. How can you incorporate one PHP file within another?
8. What is the use of “echo” in PHP?
9. What types of loops exist in PHP?
10. How to declare an array in PHP?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are the types of lists supported by HTML? Explain.

Or

(b) Explain any two control statements in Java Script.

12. (a) Mention the advantages of java script.

Or

(b) Explain array creation in java script with an example.

13. (a) What are the types of Events? Explain with an example.

Or

(b) Discuss about Date object.

14. (a) Explain data types and variables in PHP.

Or

(b) Write the differences between client side scripting and server side scripting.

15. (a) Write a PHP code to design a Registration form according to given field: Name, E-mail, Register number, phone number and apply form validation on name, E-mail and phone number, also make buttons to send the data.

Or

(b) How to handle errors and exceptions in Python?

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about form tag with an example.

17. How scripting language is differ from HTML? Explain.

18. Describe how DHTML work with Java Script.

19. Write a PHP script to create a multidimensional array.

20. How can you submit form without displaying it in browser? Which associative is used to pass data to PHP?

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A–8840

Sub. Code
4BITE3A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Sixth Semester

Information Technology

Elective — MOBILE COMMUNICATION

(CBCS – 2014 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define User Portability and Device Portability.
2. What is Modulation?
3. What is Polling?
4. Expand GEO and LEO.
5. What is the use of HIPERLAN?
6. List out the advantages of WLAN.
7. What is Encapsulation?
8. What is Routing?
9. Define Ficus.
10. What is coda?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write a note on Spread Spectrum.

Or

(b) Discuss about Antennas.

12. (a) Compare FDMA with TDMA.

Or

(b) Describe the different types of Satellite orbits.

13. (a) Discuss about IEEE 802.11.

Or

(b) List out the services of WATM.

14. (a) Write about IP-in-IP Encapsulation.

Or

(b) Write about Traditional TCP.

15. (a) What do you mean by File System consistency? Explain.

Or

(b) Write about WAP architecture.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the need of cellular systems.

17. Explain the GSM architecture.

18. Describe about :

    (a) Mobile quality of service.

    (b) Access Scenario.

19. When Mobile ad-hoc network is useful? Also write the merits and demerits of mobile ad-hoc network.

20. Describe the approaches that will help wireless access.
