C–8323	Sub. Code
	96423

B.Sc. DEGREE EXAMINATION, APRIL 2023

Second Semester

Computer Science

PROGRAMMING IN C++

(2016 Onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define encapsulation.

2. Differentiate between while and do-while statements.

3. How do you define member function outside the class? Give an example.

4. What are the advantages of using constructor?

5. Why do we need virtual function?

6. Write syntax for multilevel inheritance.

7. What are the two methods available for opening a file?

8. How to detect end of a file?

9. What is template?

10. When should a program throw an exception?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the features of object oriented programming.

Or

(b) Write a C++ program to reverse the digits of a given number.

12. (a) Write a C++ program to illustrate static member function.

Or

(b) Write short notes on destructor.

13. (a) Explain briefly about formatted console I/O operations.

Or

(b) Explain in detail about pure virtual function.

14. (a) Explain various file mode parameters in C++.

Or

(b) Discuss the various functions to manipulate file pointers.

15. (a) Write a program that demonstrates the use of multiple catch.

Or

(b) Write short notes on overloaded function templates.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain different forms of if statements with syntax and example.

Or

(b) Write short notes on :

(i) Inline function

(ii) Array of objects

17. (a) Discuss on constructors with suitable examples.

Or

(b) Discuss the various forms of inheritance with neat diagram and examples.

18. (a) Write a C++ program to read a file name and display the contents on screen.

Or

(b) Explain the concept of function template with multiple arguments.

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C–8333	Sub. Code
	96461

B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Computer Science

C# .NET PROGRAMMING

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What is C#?

2. What is the use of command line argument?

3. What is called as value type data in C#?

4. What is the use of destructors?

5. Write a program to print five city names.

6. What is namespace? Write any two uses.

7. How to attach the visual studio debugger to the running process?

8. Write about visual studio version control.

9. Write about the console class.

10. What is the use of checked and unchecked operators?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain : how does the C# differ from C++ and Java.

Or

(b) Explain the dot net languages.

12. (a) Make detailed notes on C# Structure.

Or

(b) Discuss in detail : Modifiers.

13. (a) Discuss about exception handling.

Or

(b) Explain : how to create a simple client.

14. (a) Discuss in detail : Interoperating with unmanaged code.

Or

(b) Make a detailed note on conditional compilation.

15. (a) Make detailed notes on multicast delegates.

Or

(b) Explain how to customize the windows form.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Make a detailed note on Common Language Runtime.

Or

(b) Explain about C# data types.

17. (a) Explain the C# control statements with an example.

Or

(b) Discuss in detail : Debugging.

18. (a) Explain with an example program : Nested Try blocks.

Or

(b) Write the detailed procedure to create the website using ASP and C#.

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C–8334	Sub. Code
	96462

B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Computer Science

COMPUTER GRAPHICS

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** the questions.

1. Write any two applications of computer graphics.

2. What is refresh buffer in computer graphics?

3. What are the three graphical primitives in computer graphics?

4. What is display file interpreter in computer graphics?

5. What are transformations in computer graphics?

6. What is inverse transformation in computer graphics?

7. What is meant by windowing in computer graphics?

8. What is viewport in computer graphics?

9. What is graphical interaction?

10. What is the difference between interactive and passive computer graphics?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) What are line segments and a perpendicular line? Discuss.

Or

(b) What is aliasing and anti-aliasing? Explain its types with example.

12. (a) What is inside test in polygon? Elaborate.

Or

(b) Write down the steps involved in filling a four connected polygon.

13. (a) How do you rename a segment table? Explain the steps.

Or

(b) Write short notes on display file structure in computer graphics.

14. (a) Brief on the steps in Sutherland Hodgeman algorithm.

Or

(b) Write short notes on four types of clipping.

15. (a) List and explain briefly about any two input devices used in computer graphics.

Or

(b) Give a brief account on sampling mean in graphics.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Write and explain the steps in bresenham's line drawing algorithm.

Or

(b) What is a frame buffer in computer graphics? How do you calculate it in computer graphics? Discuss.

17. (a) What is called a polygon? Elaborate in detail about its types with diagram.

Or

(b) What is scaling transformation? Discuss in detail about its types with illustrations.

18. (a) What is viewing transformation in computer graphics? Explain in detail the various steps involved in it.

Or

(b) What is event handling? Describe in detail the types of event giving examples.

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C–8335	Sub. Code 96463

B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Computer Science

COMPUTER NETWORKS

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What are the key elements of a protocol?

2. Which OSI layers are the network support layers?

3. What do you mean by CRC?

4. What is slotted ALOHA?

5. Differentiate between Circuit switching and Packet switching.

6. Specify the reasons for congestion.

7. Why UDP is said to be connectionless?

8. How crash recovery is achieved?

9. What is a cipher?

10. Expand the term JPEG.

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

Answer **all** questions.

11. (a) What are the components of Network hardware? Explain.

Or

(b) Compare the functions of Broadband and Narrowband ISDN.

12. (a) Write about Error detection and correction codes.

Or

(b) Explain Carrier Sense Multiple Access protocols.

13. (a) Describe the IP header format.

Or

(b) Compare and contrast : Link state and Distance vector algorithms.

14. (a) Explain addressing mechanism with respect to transport layer.

Or

(b) How to measure network performance? Explain.

15. (a) Explain the working of E-Mail.

Or

(b) Explain the various data compression techniques.

Part C $(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain 7 layered OSI/ISO protocol and discuss the functions performed in each layer.

Or

(b) Describe the various transmission media.

17. (a) Discuss the design issues in Data link layer.

Or

(b) Describe any two congestion control algorithms.

18. (a) List and explain about Internet Transport protocols.

Or

(b) Explain RSA algorithm for asymmetric encryption.

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C–8336

Sub. Code
96464A

B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Computer Science

MOBILE COMMUNICATIONS

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What is the goal of multiplexing schemes?

2. What are the two different kinds of mobility in telecommunication?

3. List the major algorithms used for security services in GSM.

4. Give one difference between infrared and radio transmission.

5. What defines the current location of the Mobile node from an IP point of view?

6. What is the basic purpose of DHCP?

7. What is the advantage of selective retransmission?

8. How a Tunnel is established?

9. What is the function of HTTP?

10. Expand the term WAP.

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

Answer **all** questions.

11. (a) Explain the frequencies of Radio transmission.

Or

(b) What is Spread Spectrum? Explain its Types briefly.

12. (a) Define MEO. Mention its advantages.

Or

(b) Describe the various handover scenarios in GSM.

13. (a) Explain Bluetooth architecture with neat sketch.

Or

(b) List and explain the services of WATM.

14. (a) What is Encapsulation? Define IP in IP Encapsulation.

Or

(b) Write about snooping TCP.

15. (a) Write about File system consistency.

Or

(b) Explain the various approaches to wireless access.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the various Multiplexing schemes with neat sketch.

Or

(b) Describe the basic concept of cellular system.

17. (a) Elaborate on Localization and calling functionalities of GSM system.

Or

(b) Briefly explain the system architecture and protocols of IEEE 802.11.

18. (a) Elaborate on the working of Indirect TCP.

Or

(b) Discuss in detail about Wireless Application Protocol.

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C–8337	Sub. Code
	96464B

B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Computer Science

DATA MINING AND DATA WAREHOUSING

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What are the different characteristics of a Data Warehouse?

2. Define data warehouse.

3. What is mean by testing?

4. Define planning.

5. What is a fact table?

6. What is predictive mining? Explain it briefly.

7. Define Pre pruning and post pruning.

8. What is classification?

9. Write the purpose of Apriori algorithm.

10. Define information gain.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the role of Meta data in a data warehouse.

Or

(b) Explain query manager.

12. (a) Discuss briefly about data tuning queries.

Or

(b) Explain various data warehouse models.

13. (a) Explain Web usage mining.

Or

(b) Discuss briefly about data mining metrics.

14. (a) Differentiate OLAP, ROLAP and HOLAP.

Or

(b) Write about neural networks.

15. (a) Discuss the applications of association analysis.

Or

(b) Define multidimensional and multilevel association mining.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) What are the various components of data warehouse? Explain their functionality in detail.

Or

(b) Explain different data mining tasks for knowledge discovery.

17. (a) Explain decision tree induction algorithm for classifying data tuples and discuss suitable example.

Or

(b) Explain the various Data pre-processing techniques. How data reduction helps in data pre-processing.

18. (a) What is prediction? Explain the various prediction techniques. Explain about Decision tree Induction classification technique.

Or

(b) Explain Classification Algorithms.

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