

A-8842

Sub. Code
4BCE1C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**First Semester****Computer science****PROGRAMMING IN C****(CBCS 2014 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)Answer **all** questions.

1. What is meant by 'Value' of a variable?
2. How is getchar() used in a program?
3. Differentiate between break and continue statements.
4. What is the purpose of array initialisation?
5. Write the limitations of using getchar and scanf functions for reading strings.
6. Distinguish between Actual and formal arguments.
7. What is meant by Array of structures?
8. Distinguish between (*m) [5] and *m [5].
9. What is the significance of E of ?
10. Distinguish between # if def and # if directives.

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain the structure of a 'C' program.

Or

- (b) What are the various arithmetic, logical and relational operators in 'C'? Explain with an example.

12. (a) Write the general form of for statement in 'C'. Explain its functions with an example.

Or

- (b) Write a 'C' program to compute the sum of individual digits of a given number.

13. (a) Write a 'C' program to copy one string to another and count the number of characters copied.

Or

- (b) Write a 'C' program that uses a function to sort an array of integers.

14. (a) Explain the meaning and purpose of the following:

- (i) Template
- (ii) Tag
- (iii) Size of
- (iv) Struct.

Or

- (b) Write a 'C' program using pointers to determine the length of a character string.

15. (a) What is the difference between the functions Malloc() Calloc ()? Explain .

Or

- (b) Explain the role of 'C' preprocessor.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. What are the fundamental data types supported by 'C'? How are they declared? Give examples?

17. Write a 'C' program to perform matrix multiplication.

18. The Fibonacci numbers are defined recursively as follows.

$$F_1=1$$

$$F_2=1$$

$$F_n=F_{n-1}+F_{n-2} \quad n>2.$$

Write a function that will generate and print the first 'n' Fibonacci numbers.

19. Write a 'C' program using pointers to read an array of integers and print its element in reverse order.

20. Write a 'C' program to illustrate error handling in file operations.
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A-8843

Sub. Code
4BCE2C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Second Semester****Computer Science****PROGRAMMING IN C++ AND DATA STRUCTURES****(CBCS – 2014 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)Answer **all** questions.

1. How are abstraction and encapsulation inter-related?
2. What do you mean by function overloading?
3. Differentiate Object and Class.
4. What are the operators that can not be overloaded in C++?
5. What are derived classes and base classes?
6. What is a virtual function? What are the rules for Virtual function?
7. What is a queue?
8. Write down any two applications of stacks.
9. What is a Binary Tree? Give an example.
10. Define the following related to graphs: (a) Complete Graph (b) Simple Graph.

Part B

(5 × 5 = 25)

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

11. (a) Write a C++ program to calculate the sum of individual digits of an entered number.

Or

- (b) What are inline functions? Discuss its advantages and disadvantages.

12. (a) What is friend function? What are the merits and demerits of using friend functions?

Or

- (b) What is a constructor? Write down the special characteristics of constructor.

13. (a) Explain about the abstract class and virtual base class.

Or

- (b) What is a polymorphism? How is polymorphism achieved at run time?

14. (a) Write a short note on linked stack and linked queue.

Or

- (b) What is a single linked list? Write a procedure to insert an item into a linked list.

15. (a) What are the ways to traverse a graph? Explain.

Or

- (b) Define: Adjacency matrix of the graph. Give an example.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain key concepts of Object–Oriented Programming.
 17. Write a C++ program to count the number of vowels present in the entered string.
 18. Discuss the different types of inheritances.
 19. Write a procedure to convert infix expression into postfix expression and explain.
 20. What are the binary tree traversals? Explain.
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A-8844

Sub. Code
4BCE3C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Computer Science

JAVA PROGRAMMING

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. How is Java strongly associated with the internet?
2. Why do we need the import statement?
3. What is the difference between while and do-while loops?
4. Write down the syntax for switch statement.
5. Compare class and interface.
6. Mention any four vectors methods in java.
7. What is Thread?
8. How do we define a try block?
9. Define Canvas.
10. How to run applet program?

Part B

(5 × 5 = 25)

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

11. (a) Describe with a flowchart, how various java tools are used in the application environment.

Or

- (b) Define Variable. How to declare a variable and giving values to a variable?

12. (a) Write a java program to count the even and odd numbers in a list of numbers using if...else statement.

Or

- (b) Define ?: operator. Write down the general form and its usage with examples.

13. (a) Elucidate three types of visibility modifiers with examples.

Or

- (b) Describe various forms of implementing interfaces.

14. (a) Differentiate between Multithreading and Multitasking.

Or

- (b) Explain any two built in exceptions with an example.

15. (a) How applets differ from applications?

Or

- (b) Write a program to draw a rectangle.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. What is a token? List the various types of tokens supported by java and explain.
 17. Write a program to read a number and a digit. Determine whether the number contains the digit or not. If so count how many times the digit is in the number?
 18. Describe the different forms of inheritance with examples.
 19. Specify most common run-time errors and illustrate it.
 20. Write a java program to draw the various shapes in an applet window.
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A-8845

Sub. Code

4BCE4C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

Computer Science

WEB DESIGN TECHNOLOGY

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

$(10 \times 2 = 20)$

Answer All questions.

1. What are called tags?
2. Does a hyperlink only apply to text.
3. What is CSS?
4. List out the different types of style sheets.
5. What is Java Script?
6. Write the syntax of do..... while statement.
7. What is the use of function return statement in Java Script?
8. How to create an empty array?
9. What is DOM?
10. What are load events?

Part B

(5 × 5 = 25)

Answer **all** questions

11. (a) Write the basic structure of HTML template.

Or

- (b) How can you create hyperlink in HTML?

12. (a) Explain about the CSS box model.

Or

- (b) List out the different media types in CSS.

13. (a) Discuss about the if structure of Java Script.

Or

- (b) Write a program to print odd numbers which are divisible by 7 between two limits in Java Script.

14. (a) What is a recursive function in Java Script? Give an example program.

Or

- (b) Briefly explain about the pop() and push() method.

15. (a) What are event handlers in Java Script?

Or

- (b) What is DTD in XML? Explain.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain list elements in HTML.

17. Describe the positioning HTML elements with cascading style sheets.

18. Write a program to arrange the numbers in ascending/descending order using Java Script.
 19. How to create a data object in Java Script? Give an example.
 20. Explain input events used in Java Script.
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A-8846

Sub. Code
4BCE5C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Fifth Semester****Computer Science****OPERATING SYSTEM****(CBCS – 2014 onwards)**

Time : Three Hours

Maximum : 75 Marks

Part A (10× 2 = 20)Answer **all** questions.

1. What is the main advantage of multiprogramming?
2. What is the purpose of command interpreter?
3. Define the term “process”.
4. List out any four scheduling criteria.
5. What is Semaphore.
6. What is a deadlock?
7. Differentiate frame and page.
8. What is virtual memory?
9. Define: File.
10. How do caches help improve performance?

Part B (5 × 5 = 25)

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

11. (a) Define the essential properties of the following types of operating systems:
(i) Batch (ii) Time sharing (iii) Real Time
(iv) Parallel (v) Distributed.

Or

- (b) Write a short note on I/O protection and Memory protection.

12. (a) What is PCB? Explain the contents of PCB.

Or

- (b) Explain briefly about the operations on processes.

13. (a) What are the three requirements to satisfy the critical-section problem? Explain.

Or

- (b) Explain the schematic view of a monitor.

14. (a) Describe the following allocation algorithms:
(i) First fit (ii) Best fit (iii) Worst Fit.

Or

- (b) Explain the basic concepts of demand paging memory management.

15. (a) What are the common types of files? Describe.

Or

- (b) Compare sequential and direct access methods.

Part C

(3× 10 = 30)

Answer any **three** questions.

16. Discuss the operation of a modern general-purpose computer system.
 17. Explain any two non-preemptive scheduling algorithms.
 18. What are the four methods for preventing deadlock? Explain.
 19. Explain any four page replacement algorithms.
 20. What are the three methods of allocation of disk space? Discuss.
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A-8847

Sub. Code
4BCE5C2

B.Sc DEGREE EXAMINATION, NOVEMBER2019**Fifth Semester****Computer Science****VISUAL BASIC****(CBCS – 2014 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)Answer **all** the questions.

1. What is Constant?
2. Write the syntax for select case statement.
3. What is the purpose of ActiveX control?
4. What are the important properties of Combo Box Control?
5. How to load an Image?
6. Write the syntax for circle method.
7. List out the methods of list view control.
8. Define RTF Language.
9. How can you validate data in a database?
10. What is ADO data control?

Part B (5× 5 = 25)

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

11. (a) What are variables? How to declare and initialize a variable?

Or

- (b) Explain While.. Wend statement with an example program.

12. (a) Write a VB program to print fibonacci series up to given term by using Input box.

Or

- (b) What are file controls? Explain.

13. (a) Explain how to exchange in image through clipboard.

Or

- (b) Write a VB program to draw lines in different styles.

14. (a) Write about common dialog control.

Or

- (b) How can you set Rich Text box properties at runtime?

15. (a) What are Bound controls? Explain.

Or

- (b) How can you manipulate the record set object? Explain.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. What are arguments? What are argument passing mechanisms? Explain.
 17. Write a VB program to display one list box, it contains name of picture file. If you click on particular picture file name then corresponding picture should be displayed onto the picture box.
 18. Explain the following :-
 - (a) Scale properties and methods.
 - (b) Drawing curves.
 19. What is Multiple Document Interface? Write a VB program to illustrate the concept of MDI.
 20. Discuss the structure of the BIBLIO database.
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A-8848

Sub. Code

4BCEE1A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Computer Science

Elective — DATA MINING AND DATA WAREHOUSING

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

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

Answer all questions.

1. Write any two phases of delivery process in data ware housing.
 2. Draw a typical process flow within a data ware house.
 3. List any two areas of system management that are crucial to the success of a data ware house.
 4. What is metadata?
 5. What is KDD?
 6. What is profiling?
 7. Draw a simple ER model.
 8. Give the formulae for Euclidean and Manhattan distance measurements.
 9. What is the use of Apriori Algorithm?
 10. What is the motivation for developing correlation rule?

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

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

11. (a) Draw the diagram for data warehouse delivery process and explain.

Or

- (b) Define the stages of system process.

12. (a) Discuss briefly system and database manager.

Or

- (b) Explain tuning queries.

13. (a) What are the basic data mining tasks?

Or

- (b) What are the steps of a KDD process?

14. (a) Write a note on Information Retrieval in data mining.

Or

- (b) Discuss about web search Engines.

15. (a) Define Large Itemsets in datamining-association rules.

Or

- (b) How do you measure the quality of rules?

Part C

($3 \times 10 = 30$)

Answer any **three** questions.

16. Elucidate process architecture in data warehousing.
 17. Discuss in detail about 'system managers'.
 18. Describe the issues of data mining.
 19. Explain Fuzzy sets and Fuzzy logic.
 20. What are the parallel and distributed algorithms in DM?
Explain.
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A-8849

Sub. Code
4BCEE1B

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Fifth Semester****Computer Science****Elective — MULTIMEDIA TECHNOLOGY****(CBCS – 2014 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)Answer **all** questions.

1. Define multimedia.
2. List any four multimedia applications.
3. Differentiate mono and stereo audio channelising.
4. What are the two types of problems can be anticipated in digital recording processes?
5. What is Anti-Aliasing text?
6. What is the purpose of graphics in multimedia projects?
7. What is cel animation?
8. Write the purpose of Quadrant's Q-motion card.
9. List any two common characteristics of authoring tools.
10. Define multimedia authoring.

Part B

($5 \times 5 = 25$)

Answer **all** questions.

11. (a) Write short notes on CDROM.

Or

- (b) List the required hardware specifications of a multimedia system.

12. (a) How do you make MIDI audio?

Or

- (b) Write short notes on Audio file formats.

13. (a) Briefly discuss about Hypermedia.

Or

- (b) Differentiate Rastor and vector graphics.

14. (a) Explain multimedia animation and internet animation.

Or

- (b) What are the needs to set up the digital video studio?

15. (a) Discuss about any two navigation structure design of project.

Or

- (b) Briefly discuss about the responsibilities of project manager.

Part C

($3 \times 10 = 30$)

Answer any **three** questions.

16. Discuss about the varieties of multimedia software.
 17. How do you edit digital recording? Explain.
 18. Explain any five graphics manipulation functions.
 19. Discuss about three dimensional animation environment.
 20. Describe the characteristics of authoring tools.
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A-8850

Sub. Code
4BCEE2A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Fifth Semester****Computer Science****Elective — DATABASE MANAGEMENT SYSTEM****(CBCS – 2014 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer all questions.

1. What do you know about E-R diagram?
2. What is called database?
3. What is known as normal form?
4. Define - transitive dependency.
5. List out the various types of distributed system.
6. Draw the network data model in DBMS.
7. What is data integrity in a database?
8. What are the different views in database?
9. What is called a package?
10. Give any two features of PL/SQL.

Part B

($5 \times 5 = 25$)

Answer **all** questions.

11. (a) Draw the architecture of database system.

Or

- (b) Write short notes on 2-tier database architecture.

12. (a) List out the various types of functional dependencies.

Or

- (b) Discuss about the modeling temporal data.

13. (a) Describe the client/server architecture.

Or

- (b) Briefly explain the Heterogeneous database.

14. (a) Write the syntax of table creation statement.

Or

- (b) Briefly explain about synonym in schema.

15. (a) Write the syntax of PL/SQL trigger and explain.

Or

- (b) How to create a procedure in PL/SQL?

Part C

($3 \times 10 = 30$)

Answer any **three** questions.

16. Explain history of database system.
 17. Describe the features of good relational designs in RDBMS.
 18. Discuss about distributed query processing.
 19. What is the use of index? Explain.
 20. How to create and execute a function in PL/SQL.
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A-8851

Sub. Code
4BCE6C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Sixth Semester****Computer Science****COMPUTER NETWORKS****(CBCS – 2014 onwards)**

Time : Three Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)Answer **all** the questions.

1. What is the use of transmission lines?
2. What is Unicasting?
3. What do you mean by chromatic dispersion?
4. What is wavelength?
5. What is hamming distance?
6. What is MAC?
7. Distinguish between adaptive and non-adaptive routing algorithms.
8. Write the transport service primitives.
9. What is ASCII armor?
10. What is hyper text?

Part B (5 × 5 = 25)

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

11. (a) Discuss the uses of computer networks.

Or

- (b) Write a note on local area network.

12. (a) What is multiplexing? Explain the frequency division multiplexing.

Or

- (b) With reference to transmission media, explain the relative merits and demerits of optical fiber and copper.

13. (a) Describe the one bit sliding window protocol.

Or

- (b) Explain about dynamic channel allocation in LANs and MANs.

14. (a) Draw out the comparison of virtual circuit and datagram subnets.

Or

- (b) Explain about Berkeley sockets.

15. (a) What is DNS? Why is it required? Explain.

Or

- (b) Discuss on Data Encryption standard.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Draw the diagram and explain how layers protocols and interfaces are arranged in a protocol hierarchy.
 17. Describe in detail about the wireless transmission media.
 18. Why framing of the bit stream is necessary? Explain briefly the different framing techniques with examples.
 19. Describe in detail about the elements of transport protocols.
 20. Describe the architecture and services of an E-mail.
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A-8852

Sub. Code
4BCE6C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Sixth Semester****Computer Science****COMPUTER GRAPHICS****(CBCS – 2014 onwards)**

Time : Three Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)Answer **all** the questions.

1. What is called as vector generation?
2. What is aliasing?
3. What is display processor?
4. What do you mean by convex polygon?
5. What is transformations?
6. Give the matrix representation of inverse transformations.
7. What is meant by windowing?
8. What is view port?
9. Name any two locator devices.
10. What is an attribute?

Part B (5 × 5 = 25)

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

11. (a) Explain briefly about Bresenham's algorithm.

Or

- (b) Discuss on frame buffer display.

12. (a) Explain the Line-style primitive.

Or

- (b) Explain the polygon interfacing algorithms.

13. (a) Write different types of transformations in 2D.
Briefly explain it.

Or

- (b) Explain the display procedures.

14. (a) Discuss on viewing transformation.

Or

- (b) Explain how to add the clipping to the system.

15. (a) Explain the working principle of light pen with a neat sketch.

Or

- (b) Briefly explain the interative techniques.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about the line and line segments in detail.

17. Describe the various display devices in detail.

18. How to create, closing, deleting and renaming a segment?
Explain.
 19. What is clipping? Explain the algorithm for Cohen-Sutherland line clipping with example.
 20. Describe in detail about the event handling.
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A-8853

Sub. Code
4BCE6C3

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Sixth Semester

Computer Science

SOFTWARE ENGINEERING

(CBCS – 2014 onwards)

Time : Three Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What are the attributes of software quality?
2. List out the content of an architectural design specification.
3. What is a COCOMO?
4. What is Decision table?
5. What do you mean by information Hiding?
6. What is Communication cohesion?
7. What is meant by Recursion?
8. What is Debugging?
9. What are the Quality assurance activities?
10. List out the automated tools for software maintenance.

Part B

(5 × 5 = 25)

Answer all the questions

11. (a) What are the managerial issues in planning a software project? Explain.

Or

- (b) Explain the various factors are considered in project planning.

12. (a) What are the factors influences the software cost? Explain.

Or

- (b) Briefly explain any one of the formal specification techniques.

13. (a) What is Data flow Diagram? Explain.

Or

- (b) Explain the following concepts

(i) Abstraction (ii) Modularity

14. (a) What are the two kinds of activities involved in system testing? Discuss.

Or

- (b) Discuss on Quality assurance plan.

15. (a) What is configuration management? Explain.

Or

- (b) Explain the Mccabe's cyclomatic metric.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe in detail about the various factors influences the quality and productivity.
 17. What are the different techniques for software cost estimation? Explain.
 18. Explain any two software design techniques.
 19. Discuss on structured code techniques in detail.
 20. What are the activities performed in enhancing maintainability of a software product? Explain.
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A-8854

Sub. Code
4BCEE3A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Sixth Semester****Computer Science****Elective — MOBILE COMMUNICATION****(CBCS – 2014 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer all questions.

1. What are the parameters of signals?
2. What are the advantages of cellular system?
3. Compare Classical Aloha and Slotted Aloha.
4. What is the purpose of Encryption?
5. Write down any two advantages of WLAN.
6. What is BRAN?
7. Distinguish between home network and foreign network.
8. What are the advantages of I-TCP?
9. What is HTTP?
10. Write down any two features of WML Script.

Part B

(5 × 5 = 25)

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

11. (a) What are the ways to represent signals? Describe.

Or

- (b) Explain the frequency spectrum for radio transmission.

12. (a) What are the advantages and disadvantages of GEO and LEO?

Or

- (b) Discuss the main components of UMTS reference architecture.

13. (a) What are the advantages and disadvantages of infrared?

Or

- (b) What is WATM? What is the motivation for WATM?

14. (a) Describe the goals, assumptions and requirement of Mobile IP.

Or

- (b) Compare the wired networks and ad-hoc wireless networks related to routing.

15. (a) What is WTP? Explain.

Or

- (b) Write a note on wireless session protocol.

Part C

($3 \times 10 = 30$)

Answer any **three** questions.

16. Compare space division, frequency division, and time division multiplexing.
 17. Discuss the protocol architecture of GSM.
 18. Explain the reference model of WATM.
 19. Describe any two routing schemes in mobile ad-hoc networks.
 20. Explain logical model of WAE.
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A-8855

Sub. Code
4BCEE3B

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019**Sixth Semester****Computer Science****Elective: C# .NET PROGRAMMING****(CBCS – 2014 onwards)**

Time : 3 Hours

Maximum : 75 Marks

Part A (10 × 2 = 20)Answer **all** questions.

1. List out any two important highlights of C# language.
2. What is managed code?
3. What is boxing?
4. What do you mean by default values?
5. What is an exception?
6. In what ways does a switch statement differ from an “if” statement?
7. What are platform invocation services?
8. Define the term “Security”.
9. What is a delegate method?
10. Distinguish between Read and ReadLine methods.

Part B

(5 × 5 = 25)

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

11. (a) State five significant differences between C# and Java.

Or

- (b) How does the Write() method differ from the WriteLine() method?

12. (a) What is an indexer? What is it used for?

Or

- (b) What is a constructor? State the characteristics of constructors.

13. (a) What is a break statement? How and when a break is typically used?

Or

- (b) Explain how exception handling mechanism can be used for debugging a program.

14. (a) Describe the documentation and comments in XML.

Or

- (b) What is conditional compilation? Explain.

15. (a) What is an event handler? How is it designed?

Or

- (b) What is a thread? What is the function of Sleep() and Join() methods of the Threaded Class?

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss the various components of .NET platform.
 17. What are the categories of data types supported by C#? Explain.
 18. Write a C# program to find the factorial of a given number.
 19. How to set simple breakpoints? Explain.
 20. Write a C# program that prints the value 1234 in a column width of 10: (a) Right-justified (b) Left-justified (c) Right-justified with padded zeros on left.
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