

SECOND PUC – COMPUTER SCIENCE (41-NS)**BLUE PRINT FINAL EXAMINATION**

UNIT	CHAPTERS	DESCRIPTION	VSA (1M)	SA (2M)	LS (3M)	E (4M)	TOTAL
UNIT-A BACKDROP OF COMPUTER MARKS - 31	Chapter – 1	Typical Configuration of Computer System	Q.No 1	-	Q.No 19	-	04
	Chapter – 2	Boolean Algebra	-	Q.No 11,12	-	Q.No 27	09
	Chapter – 3	Logic Gates	Q.No 2	-	Q.No 20	-	04
	Chapter – 4	Data Structures	Q.No 3	-	Q.No 21	Q.No 28,29	14
UNIT-B COMPUTING IN C++ MARKS - 39	Chapter – 5	Review of C++	-	-	-	-	-
	Chapter – 6	OOP's Concepts	-	Q.No 13	-	Q.No 30	07
	Chapter – 7	Classes and Objects	Q.No 4	-	-	Q.No 31	06
	Chapter – 8	Function Overloading	-	-	-	Q.No 32	05
	Chapter – 9	Constructor and Destructor	-	Q.No 14	-	Q.No 33	07
	Chapter – 10	Inheritance	-	-	-	Q.No 34	05
	Chapter – 11	Pointers	Q.No 5	-	Q.No 22	-	04
	Chapter – 12	Data File Handling	-	Q.No 15	Q.No 23	-	05
UNIT-C LARGE DATA, DATABASE & QUERIES MARKS – 18	Chapter – 13	Database Concepts	Q.No 6	Q.No 16	Q.No 24	Q.No 35	11
	Chapter – 14	SQL Commands	-	Q.No 17	-	Q.No 36	07
UNIT-D ADVANCED CONCEPTS IN COMMUNICATION TECHNOLOGY MARKS - 17	Chapter – 15	Networking Concepts	Q.No 7,8	Q.No 18	-	Q.No 37	09
	Chapter – 16	Internet and Open Source Concepts	Q.No 9	-	Q.No 25	-	04
	Chapter – 17	Web Designing	Q.No 10	-	Q.No 26	-	04
TOTAL MARKS			10	16	24	55	105
Total Number of Questions to be answered			10	10	15	35	70

MODEL QUESTION PAPER - 01

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is microprocessor?
2. Write the standard symbol for AND gate.
3. What are data structures?
4. Is it possible to access data outside a class?
5. How to initialize a pointer?
6. What is normalization?
7. Expand ARPANET.
8. What are cookies?
9. What is URL?
10. Define a domain.

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. What are the fundamental products for each at this input words $ABCD = 0010$, $ABCD = 0110$.
Write SOP Expression.
12. Draw the general K-Map for 4 variables A, B, C & D.
13. Explain data encapsulation.
14. Why are constructors needed in a program? Justify.
15. Differentiate between if stream classes & of stream class.
16. What is relation algebra?
17. What are logical operators in SQL?
18. What is SIM card?

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. Explain the characteristics of motherboard.
20. Draw the logical gate diagram to implement NOT gate using NAND and NOR.

21. Explain the memory representation of queue in arrays.
22. What is new operator in C++? Give example.
23. Mention the type of files. Explain any one.
24. Give the different notations for E-R diagram.
25. Write the advantages of WWW.
26. What are the steps involved in hosting a web page.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. State and prove De-Morgan's theorem.
28. What are the operations performed on linear data structures?
29. Write an algorithm to insert an element into the array.
30. Explain the advantages of OOP's.
31. Illustrate with an example how an array of objects can be defined.
32. Explain the features of copy constructors.
33. What are the types of inheritance? Explain any two.
34. Explain Codd's rules for database management.
35. Write the difference b/w order by and group by commands with example.
36. Give the measures for preventing virus.

MODEL QUESTION PAPER – 02

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is data bus?
2. Which basic gate is also called as inverter?
3. What is meant by primitive data structures?
4. What is a member function?
5. Write the declaration syntax for a pointer.
6. Define Primary key.
7. Expand FTP.
8. Define Network Topology.
9. What is freeware?
10. Mention the use of HTML.

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. Prove that $X + XY = X$.
12. Define Minterm and Maxterm.
13. Briefly discuss the classes in OOP.
14. What is destructor? Write its syntax.
15. Differentiate between ifstream and ofstream.
16. What is data independence? Mention the types of data independence.
17. Give the syntax and example for DELETE command in SQL.
18. Explain half duplex communication mode.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. What is a port? Explain serial port.
20. Write the logic diagram and truth table for NOR gate.
21. Write an algorithm for PUSH operation in Stack.

22. What are the operations performed on pointers?
23. Give the function of put(), get() and getline () with respect to text files.
24. Briefly explain One-tier database architecture.
25. What is web browser? Mention any two web browser.
26. Explain any three text formatting tags in HTML.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Given the Boolean function $(W,X,Y,Z) = (0,4,8,9,10,11,12,13,15)$. Reduce it by using Karnaugh map.
28. Write a note on tree data structure.
29. Write an algorithm to delete a data element from the queue.
30. Explain the limitations of object oriented programming
31. What is class definition? Write its general syntax and example.
32. What is an inline function? Write a simple program for it.
33. What is a constructor? Give the rules of writing a constructor function.
34. Explain single inheritance with a suitable C++ program.
35. What is data warehouse? Briefly explain its components.
36. Explain the various group functions in SQL.
37. Explain any five network devices.

MODEL QUESTION PAPER - 03

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is a motherboard?
2. What is logic gate?
3. Give an example for linear data structure.
4. What is a class?
5. Mention any one advantage of pointers.
6. What is a database?
7. Expand URL.
8. Define bus topology.
9. Name any one web browser.
10. Write any one HTML tag.

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. State and prove involution law.
12. What is principle of duality? Give an example.
13. Differentiate between base class and derived class.
14. Mention the types of constructors.
15. What is stream? Mention any one stream used in C++.
16. Write any advantages of database system.
17. Mention any two data types used in SQL.
18. Explain circuit switching technique.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. What is the function of UPS? Mention different types of UPS.
20. Write the logic diagram and truth table for NAND gate.
21. Explain the various operations performed on queue data structures.

22. What is array of pointers? Give example.
23. List the different modes of opening a file with their meaning in C++.
24. Explain any three components of E-R model.
25. What is E-Commerce? Explain any two types.
26. What is Web-hosting? Mention different types of web hosting.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Given $F(A,B,C,D) = (0,2,4,6,8,10,14)$. Use Karnaugh map to reduce the function F using POS form. Write logic gate diagram for the reduced SOP expression.
28. Explain the memory representation of stack data structure using arrays.
29. Write an algorithm for binary search.
30. Mention any five application of OOP.
31. What are access specifiers? Explain any two with examples.
32. What is function overloading? Explain the need of function overloading.
33. Explain destructor with syntax and example.
34. What is inheritance? Mention its advantages.
35. Define the following database terms.
 - a. Data Model
 - b. Tuple
 - c. Domain
 - d. Candidate Key
 - e. Foreign Key
36. What is data definition language? Explain SELECT and UPDATE command.
37. What is network protocol? Explain different types of protocol.

MODEL QUESTION PAPER - 04

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. Expand CMOS.
2. Which basic gate is named as Inverter? Give its symbol.
3. Which type data members are accessible outside the class?
4. Name one condition for overloading functions.
5. Write a definition for a variable of pointer to float
6. What is binary file?
7. What is normalization?
8. Give the syntax for create command in SQL.
9. Define foreign key.
10. What is cyber law?

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. What is bus? Mention the types of bus.
12. Prove algebraically that $X+X'Y=X+Y$
13. Discuss how objects of a class are referenced with an example.
14. Write any two characteristics of friend function.
15. What is stream? Name the streams generally used for file I/O
16. What is Cartesian product?
17. Classify various SQL operators.
18. What is SIM card?

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. Explain the characteristics of mother board.
20. Draw the logic gate diagram to implement NOT using
 - a. Only NOR gates
 - b. Only NAND gates

21. Mention the applications of OOP.
22. Explain inline function with an example program.
23. Mention the methods of opening file within C++ program. Discuss any one method.
24. Give the different notations of E-R diagram.
25. Explain DDL commands with example.
26. Explain the cables and different types of cables used in transmission.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Given the Boolean function $F(A,B,C,D) = \sum(5,6,7,8,9,10,14)$. Use K-Map to reduce the function using SOP form. Write a logic gate diagram for the reduced expression.
28. State and prove De Morgan's theorem algebraically.
29. Write a program to find the area a square/rectangle/triangle using function overloading.
30. Write a program to perform POP operations in the stack.
31. Explain the member functions
 - a. Inside the class definition
 - b. Inside the class definition
32. Explain pass by pointers with example.
33. Explain any five file modes.
34. Explain Indexed sequential access method with advantages and disadvantages
35. Explain Codd's rules for data base management
36. Explain SQL constraints with example.
37. What is topology? Explain in detail.

ANNUAL EXAMINATION PAPER, MARCH - 2015

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is data bus?
2. Which basic gate is also called as inverter?
3. What is meant by primitive data structure?
4. What is a member function?
5. Write the declaration syntax for a pointer.
6. Define primary key.
7. Expand FTP.
8. What is network topology?
9. What is freeware?
10. Mention the use of HTM.

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. Prove that $X + XY = X$
12. Define Minterm and Maxterm.
13. Briefly discuss the classes in OOP's.
14. What is destructor? Write its syntax.
15. Differentiate between ifstream and ofstream.
16. What is data independence? Mention the types of data independence.
17. Give the syntax and example for DELETE command in SQL.
18. Explain half duplex communication mode.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. What is port? Explain serial port.
20. Write the logic diagram and the truth table for NOR gate.
21. Write an algorithm for PUSH operation in stack.

22. What are the operations performed on pointer?
23. Give the function of put(), get(), and getline() with respect to text files.
24. Briefly explain one-tier database architecture.
25. What is a web browser? Mention any two web browsers.
26. Explain any three formatting tags in HTML.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Give the Boolean function $F(W,X,Y,Z) = (0,4,8,9,10,11,12,13,15)$. Reduce it by using Karnaugh map.
28. Explain any five basic operations performed on arrays.
29. Write an algorithm to delete a data element from the queue.
30. Explain the advantage of object oriented programming.
31. What is class definition? Write its general syntax and example.
32. What is an inline function? Write a simple program for it.
33. What is constructor? Give the rules of writing a constructor function.
34. What is inheritance? Explain any two types of inheritance.
35. What is data warehouse? Briefly explain its components.
36. Explain the various group functions in SQL.
37. Explain any five network devices.

SUPPLEMENTARY EXAMINATION PAPER, JUNE - 2015

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is motherboard?
2. What is logic gate?
3. Give an example for linear data structure.
4. What is a class?
5. Mention any one advantage of pointers.
6. What is a database?
7. Expand URL.
8. Define bus topology.
9. Name any one web browser?
10. Write any one HTML tag

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. State and prove involution law.
12. What is principle of duality? Give an example.
13. Differentiate between base class and derived class.
14. Mention different types of constructors.
15. What is a stream? Mention any one stream used in C++.
16. Write any advantages of database system.
17. Mention any two data types used in SQL.
18. Explain the various operations performed on queue data structure.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. What is the function of UPS? Mention different types of UPS.
20. Write the logic diagram and the truth table for NAND gate.
21. Explain the various operations performed on queue data structure.

22. What is array of pointers? Give an example.
23. List the different modes of opening a file with their meaning in C++.
24. Write the different symbols used in E-R diagram with their significance.
25. What is E-Commerce? Explain any two types.
26. What is web hosting? Mention the different types of web hosting.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Reduce $F(A, B, C, D) = (1,2,3,4,5,7,9,11,12,13,14,15)$. Using Karnaugh map.
28. Explain the memory representation of stack data structure using array.
29. Write an algorithm of binary search.
30. Mention any five applications of OOP's.
31. What are access specifiers? Explain any two with examples.
32. What is function overloading? Explain the need for overloading.
33. Explain destructor with syntax and example.
34. What is inheritance? Mention its advantages.
35. Define the following database terms.
a) Data Model b) Tuple c) Domain d) Primary Key e) Foreign Key
36. What is data definition language? Explain SELECT and UPDATE command.
37. Give the measures for prevention virus.

ANNUAL EXAMINATION PAPER, MARCH - 2016

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is DHTML?
2. Define E-Commerce.
3. Define Local Area Networking.
4. Define the term "topology" of computer network.
5. Define data mining.
6. How do you initialize a pointer variable?
7. What is the significance of scope resolution operation in C++?
8. Name any one non-linear data structure.
9. Write the standard symbol for XOR gate.
10. Expand ISA

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. Prove that $(X+Y)(X+Z) = X + YZ$ using algebraic method.
12. Give the general syntax for defining classes and objects.
13. What are Minterm and Maxterm?
14. Mention any two antivirus software's.
15. Write the syntax for DELETE and INSERT command in SQL.
16. Write any two rules for constructor.
17. Write any two member function belongings to of stream class.
18. What are the advantages of ISAM.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. What is web hosting? Mention various web hosting services.
20. What is meant by shareware? Write its limitation.
21. Explain relational data model with an example.

22. Give the functions of the following.
a. get() b. getline() c. read()
23. Explain the use of new and delete operators in pointers.
24. What is stack? Write an algorithm for POP operation.
25. Draw the logic diagram and truth table for two input XOR gate.
26. Expand UPS. Explain the types of UPS.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Write an algorithm to insert an element into a queue.
28. Write an algorithm for insertion sort method.
29. Using K-map, simplify the following expression in four variables.
$$F(A, B, C, D) = m_1 + m_2 + m_4 + m_5 + m_9 + m_{11} + m_{12} + m_{13}$$
30. Write the rules to be followed in writing the constructor function in C++.
31. Describe briefly the use of friend function in C++ with syntax and example.
32. Explain defining objects of a class with syntax and a programming example.
33. Define object oriented programming. Write the limitations of object oriented programming.
34. Explain network securities in detail.
35. Describe any five logical operators available in SQL.
36. Write the difference between manual and electronic data processing.
37. Explain briefly the types of inheritance.

SUPPLEMENTARY EXAMINATION PAPER, JUNE - 2016

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is cache memory?
2. Write the standard symbol for OR gate.
3. What is queue?
4. What is an object?
5. Define pointer.
6. What is database?
7. Define networking.
8. Give an example for full duplex communication mode.
9. What is Telnet?
10. Expand XML.

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. Prove algebraically that $(X+Y)(X+\bar{Y})=X$
12. State and prove commutative law using truth table.
13. What is the use of scope resolution operator? Give the symbol.
14. Write any two rules to create constructor.
15. Write any two member functions belonging to ifstream class.
16. Define primary and secondary keys.
17. Mention the logical operators used in SQL.
18. Write the difference between LAN and WAN.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. Explain the three types of motherboard.
20. Write the truth table and standard symbol for XOR gate.
21. Write an algorithm for traversal in a linear array.

22. What are the advantages of pointers?
23. Mention the types of data file. Explain.
24. Define hierarchical model. Give one advantage and disadvantage.
25. Define the term
 - a) Web page.
 - b) Web browser.
 - c) WWW
26. Briefly explain any three HTML tags.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Reduce $F(A, B, C, D) = (1,5,9,10,11,12,13,14)$. Using Karnaugh map.
28. What is linear data structure? Explain the operations performed on linear data structure.
29. Write an algorithm to search an element in an array using linear search method.
30. Mention the advantages of Object Oriented Programming.
31. Explain member function inside the class definition with syntax and example.
32. What are the advantages and disadvantages of inline function.
33. Explain default constructor with syntax and example.
34. Mention the advantages of inheritance.
35. Explain any five applications of database.
36. Expand SQL. Give the syntax and example for INSERT and DELETE command in SQL.
37. What is Network Security? Mention and explain protection methods.

ANNUAL EXAMINATION PAPER, MARCH - 2017

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is a bus?
2. Write the standard symbol for AND gate.
3. Define an array.
4. Is it possible to access data outside a class?
5. Mention any one advantage of pointer.
6. Define an entity.
7. What is chatting?
8. What is a server?
9. Expand WWW.
10. What is a Website?

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. Prove algebraically $X + XY = X$
12. State the principle of duality. Write the dual of $1+X=1$.
13. Define base class and derived class.
14. Write the features of default constructors.
15. Differentiate between read() and write().
16. Write the difference between data and information.
17. Give the syntax and example of UPDATE command in SQL.
18. What is communication (transmission) mode? Explain simplex mode.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. Explain the characteristics of motherboard.
20. Realize AND, OR, NOT gate using NAND gates.
21. Explain the memory representation of two dimensional arrays.

22. Define:
- a) Pointer.
 - b) Static memory allocation.
 - c) Dynamic memory allocation.
23. Explain any three modes to open a file in C++.
24. Mention database users.
25. Give the services of E-commerce.
26. Explain any three HTML tags.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Reduce $F(A, B, C, D) = (0, 4, 6, 7, 8, 12, 14, 15)$. Using Karnaugh map.
28. Write an algorithm to insert an element in an array.
29. What is a Stack? Write an algorithm for PUSH () and POP () operations.
30. Write the applications of OOP's.
31. Explain class definition with syntax and example.
32. Explain inline function with programming example.
33. What is a destructor? Write its syntax and example.
34. Write the types of Inheritance. Explain any two.
35. Briefly explain the data processing cycle.
36. Write the purpose of the following functions.
- a) count ()
 - b) max ()
 - c) min ()
 - d) avg ()
 - e) sum ()
37. Give the measures for preventing virus.

SUPPLEMENTARY EXAMINATION PAPER, JUNE - 2017

Subject: **COMPUTER SCIENCE (41-NS)**

Time: 3:15 Hours

Max. Marks: 70

Part- A

I. Answer all the questions. Each question carries one mark. 10x01=10

1. What is the use of SMPS?
2. For the truth table given below, what type of logic gate does the output F represents?

A	B	F
0	0	1
0	1	1
1	0	1
1	1	0

3. What are non-linear data structures?
4. What is meant by array of objects?
5. What is the purpose of new operator in C++?
6. What is an entity?
7. What is Hub?
8. Expand FTP.
9. Give the general syntax of URL.
10. What is web scripting?

Part- B

II. Answer any five questions. Each question carries two marks. 05x02=10

11. State and prove complementary law.
12. Find the complement of the expression. $F = \bar{Y} + X\bar{Z} + \bar{X}Y$
13. What are base class and derived class with reference of OOP?
14. What is a destructor? Which is the operator used with destructor function?
15. Differentiate between put() and get() functions with reference to binary files.
16. Mention the database users.
17. What is the difference between ORDER BY and GROUP BY clause used in SQL? Give example for each.
18. Write the difference between half duplex and full duplex communication modes.

Part- C

III. Answer any five questions. Each question carries three marks. 05x03=15

19. What is the purpose of ports, buses and controllers in the I/O system?
20. Construct logic diagram for OR and NOT operations.
 - a) using only NOR gates
 - b) using only NAND gates
21. Write an algorithm for insert element into a one dimensional array.
22. Explain the operations performed on pointers.
23. Write the member function belong to ifstream class.
24. Mention any three advantages of random/direct access file organization.
25. Define E-commerce. Write the various technologies and services used in E-commerce.
26. Explain the general structure of HTML.

Part- D

IV. Answer any seven questions. Each question carries five marks. 07x05=35

27. Simplify the following Boolean expression using K-map
$$F(A, B, C, D) = (0, 2, 5, 7, 8, 10, 13, 15).$$
28. What are the operations performed on queues? Write an algorithm for deleting an element from a queue.
29. What is sorting? Write an algorithm for insertion sort.
30. Give the difference between procedural oriented programming and object oriented programming.
31. Write the general syntax for defining and declaring classes and objects and explain the terms. Give an example.
32. When is function overloading is needed? Write any two advantages and restrictions on overloading functions.
33. Explain the features of default constructor. Write the syntax and example for default constructor.
34. What is inheritance? Write the advantages of inheritance in C++.
35. Write the difference between hierarchical data model and network data model.
36. What are group functions in SQL? Explain any four group functions with example.
37. What is networking? Explain the goals of networking.
