

# COMPUTER SCIENCE

## (Theory)

**Pass Marks = 21**

*All the questions are compulsory*

*Select the correct answer from each of the following and rewrite it.*

1. In seek () method the reference point for the current position of the file is  
A) 0  
B) 1  
C) 2  
D) 3
2. The list should be sorted first in  
A) Stack  
B) Queue  
C) Linear search  
D) Binary search
3. The statement in SQL that deletes the table and the relationship is....  
A) REVOKE  
B) DROP  
C) DELETE  
D) TRUNCATE

P.T.O.

4. To view the structure of an already created table by using  
 A) DESCRIBE TABLE      B) ALTER TABLE  
 C) VIEW TABLE          D) CREATE TABLE      1
5. In SQL \_\_\_\_\_ is not an aggregate function.  
 A) MAX                      B) COUNT  
 C) COMPUTE                D) SUM                      1
6. Which software prevents the unauthorized access to a system  
 A) Firewall                B) Gateway  
 C) Router                  D) Virus checker      1
7. The term FTP stands for  
 A) File Transfer Program    B) File Transmission Protocol  
 C) File Transfer Protocol    D) File Transfer Protection      1

*Give the very short answer of the following questions:*

8. What is an exception in python programming?      1
9. Which data structure follow FIFO principle?      1
10. Give one advantage of binary search over linear search.      1
11. Define DBMS.      1
12. Name the operator used for pattern matching in SQL,      1
13. Write the statement which is used to make changes in the structure of a table.      1
14. Give the output produced by the following SQL statement  
 SELECT MID ("MANIPUR", 3, 4);      1
15. Why constraints are used in creating table?      1
16. Mention one disadvantage of optical fibre.      1



17. Two universities in different states want to transfer information. Which type of network they need to use for this? 1

*Give short answer of the following questions:*

18. What is the need for exception handling? State the use of raise statement. 2
19. Give the advantage of using with clause to open a file. Write the python code to open a file called "file1.txt" in read mode by using with clause. 2
20. Evaluate the following postfix expression 2  
20, 8, 4, /, 2, 5, +, \*, - 2
21. Define the following terms: 2  
i) Attribute  
ii) Cardinality
22. Differentiate between ORDER BY clause and GROUP BY clause in SQL. 2
23. Write the use of UNION and INTERSECT operations on relations. 2
24. Give the full form of ARPANET. What are the types of data communication? 2
25. Explain the working of a modem. 2
26. Draw the network layout of BUS and RING topologies connecting 4 computers. 2

*Give answer of the following questions:*

27. a) i) Define a stack  
ii) Under what conditions the 'overflow' and 'underflow' can occur in a stack. 3

Or

- b) i) Define a deque.  
ii) What are the operations performed on deque?
28. Convert the following infix into prefix and postfix form. 3  
 $A * (B + C) - D / E$

Or

- Sort the following numbers manually by using Insertion Sort method.  
18 12 46 38 10 24 15
29. Write an algorithm for Linear Search. 3
- Or
- Write an algorithm for Selection Sort.

30. Explain the types of data with examples. 3

Or

- What are the limitations of a file system?
31. a) Give the syntax 3  
i) to add primary key to a relation.  
ii) to add an attribute to an existing table.  
iii) to remove an attribute from a table.

Or

- b) How you update and delete data from a table giving with examples.
- Give answer of the following questions:**
32. Write a python program to implement a stack. 5
- Or
- Write a python program to implement a queue.



33. Write a python program to search an item in a list using Binary Search method. 5

Or

Write a python program to sort a list of numbers in ascending order using Bubble Sort method.

34. a) i) What is data model?  
ii) Write the role of Primary and Foreign key in database.  
iii) Write some uses of database in real life application. 5

Or

b) Consider a table EMPLOYEE containing fields ENO, ENAME, DEPT, AGE, SEX and SALARY. Write the SQL commands

- i) To list all the employee of education department whose salary is more than 30000.
- ii) To display ENAME, DEPT, AGE whose age is between 30 and 40.
- iii) To count the number of employee whose name starts with 'S' or ends with 'A'.
- iv) To sum the total salary for all female employees.
- v) To display ENAME, SALARY in descending order of salary.

35. a) i) What is computer network?  
ii) Differentiate between LAN and WAN.  
iii) Write short notes on Repeater. 5

Or

- b) i) Write the full form of Wi-Fi.  
ii) Why do we need protocols in data communication? Name the protocol for e-mail services.  
iii) Write some of the common distribution channels of malware.