

Vivekanand College (An Empowered Autonomous), Kolhapur
Department of BCA

Notice

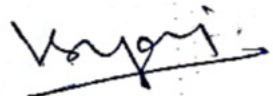
Date: 22/02/2025

All the students of BCA-II are hereby informed that there is **UNIT Test** of the subject **Data Structure using C++** on **25/02/2025** at **8.20 am-09.10 am**.

The test is of 20 Marks based on UNIT-I.

Attendance is compulsory to all.




(Mr. V.B. Pujari)

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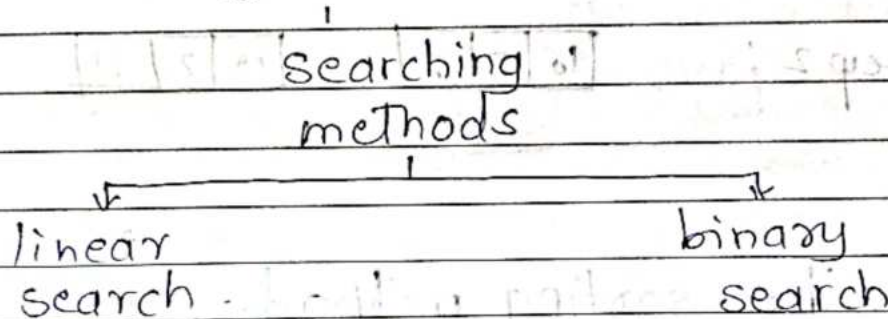


Q.1. Describe searching method and types with example.

→ Searching method:

Searching method in datastructure is used to find a particular record in an array.

There are 2 approaches to search in searching method -



i) linear search

In linear search, The record is tried to find in a linear way. i.e. by a particular sequence.

eg.

15	17	18	19	20	21
----	----	----	----	----	----

0 1 2 3 4 5

The every index is been looked upon linearly. Every index and elements are checked linearly to find the desired record.

ii) Binary search

Binary search use divide and conquer approach. Where a target element is set and using that targeted element, the record is found.

step 1:

16	17	18	19	20	26
----	----	----	----	----	----

 target = 18
 0 1 2 3 4 5

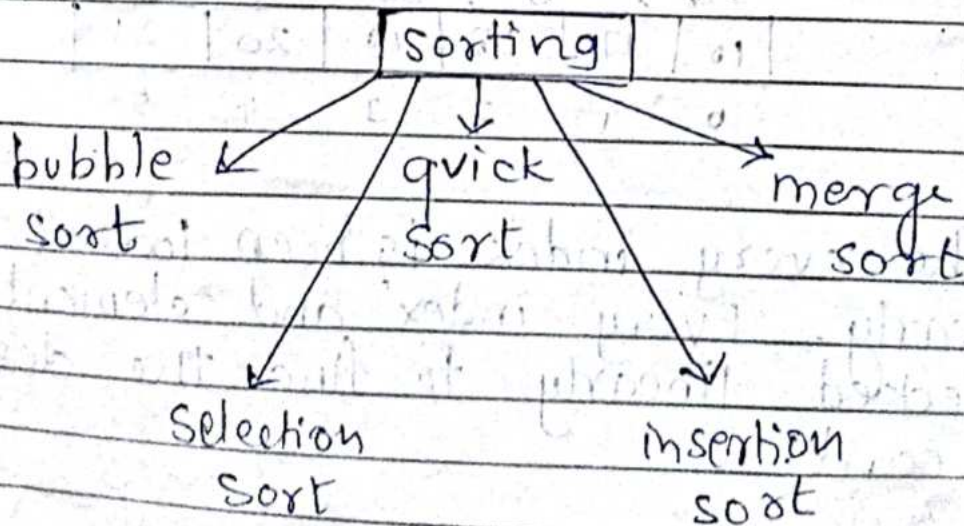
step 2:

16	17	18	19	20	26
----	----	----	----	----	----

Q2 Describe sorting methods

Sorting methods are used to sort the elements in ascending or descending order.

There are basically 5 sorting methods namely -



i) Bubble sort :

In 'Bubble sort', the array elements are tried to sort in 'ascending or descending order'.

In bubble sort, The adjacent element are compared and swaped.

eg.

7	16	24	3	50	17
---	----	----	---	----	----

 using bubble sort,

The arrays are kept in ascending like

below

3	7	16	17	24	50
---	---	----	----	----	----

ii) Insertion sort :

In insertion sort, some part of an array is considered sorted and

1. current variable is taken to sort

The remaining array and Then add the right element in the space

by comparing the element in current variable to its previous element and

Then swaped.

iii) Selection sort : In selection sort,

half part or some part of array is considered as sorted and the

unsorted part is run on a loop to find the minimum of the elements and

added one by one to the array and go on.

iv) Merge sort :

In merge sort, the divide & conquer technique is used and the elements in given array are sorted in a temporary array while stored.

sorting the small divided parts (elements) where $e = st = \text{same element}$. Then going reverse to binding together the elements in a sorted way.

v) Quick sort :

In quick sort, there is a pivot is considered and mostly the last element is considered as pivot and the left part of pivot is stored which are lower in value than the pivot and right side of pivot is sorted with keeping the bigger elements than pivot.

This way the lower small elements (sorted) pivot + (larger elements) make a sorted array in ascending order.

Q.3 stack - Uses LIFO (Last in First out) eg - dishes

- 1) Push () $\rightarrow$ adds the element
- 2) Pop () $\rightarrow$ deletes the element
- 3) push-back $\rightarrow$ adds to the rear
- 4) push-front $\rightarrow$ adds element to the front
- 5) pop-back $\rightarrow$ deletes from rear
- 6) pop-front $\rightarrow$ deleted from front
- 7) peek () $\rightarrow$ looks which element is in front.

Class : BCA II

Division : C

D.S.

Test 1

Sr. No.	Roll No.	Student Name	10/02/25	11/02/25	20/2	25/02	3/3	4/3
1	1411	MALI PARTI NILESH	Parti	Parti	Parti	Parti	Parti	Parti
2	1412	*PRANJAL PRASHANT MALI	Pranjal	Pranjal	Pranjal	Pranjal	Pranjal	Pranjal
3	1413	*SANJANA SANTOSH MANE	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana	Sanjana
4	1414	MANE MAHESH RAJARAM	AB	AB	AB	AB	AB	AB
5	1415	MANGAL RUGAVED UTTAM	AB	AB	AB	AB	AB	AB
6	1416	MITHARI VRUSHAB DINESH	VRUSHAB	VRUSHAB	VRUSHAB	VRUSHAB	VRUSHAB	VRUSHAB
7	1417	*SHARVARI SATYAJEET MOHITE	Sharvate	Sharvate	Sharvate	Sharvate	Sharvate	Sharvate
8	1418	MOKASHI UJEF ABIDHUSEN	AB	AB	AB	AB	AB	AB
9	1419	MORE PRASAD PRAMOD	AB	AB	AB	AB	AB	AB
10	1420	PRYANSHU NILESH MORE	Pranjal	Pranjal	Pranjal	Pranjal	Pranjal	Pranjal
11	1421	MUJAWAR AMAN TOHID	Amant	Amant	Amant	Amant	Amant	Amant
12	1422	*MUJAWAR AYESHA AKHTAR	Ashar	Ashar	Ashar	Ashar	Ashar	Ashar
13	1423	MUJAWAR MAHAMADJAI SHAKIL	Shaker	Shaker	Shaker	Shaker	Shaker	Shaker
14	1424	*MUJAWAR MAHEK IRFAN	Ashar	Ashar	Ashar	Ashar	Ashar	Ashar
15	1425	MUKADAM AABSHAR MOHAMMAD ABDUL GANI	Aabshar	Aabshar	Aabshar	Aabshar	Aabshar	Aabshar
16	1426	HARSHAD DILIP NAIK	AB	AB	AB	AB	AB	AB
17	1427	NAIK SHREYASH BALU	Shrik	Shrik	Shrik	Shrik	Shrik	Shrik
18	1428	NAIKWADI ATHIRVA SACHIN	Shrik	Shrik	Shrik	Shrik	Shrik	Shrik
19	1429	NANDAVADEKAR SOHAM VINOD	AB	AB	AB	AB	AB	AB
20	1430	*RASIKA CHANDRAKANT NARAKE	Rasika	Rasika	Rasika	Rasika	Rasika	Rasika
21	1431	NASHTE ADITYA VIVEK	A.V.V	A.V.V	A.V.V	A.V.V	A.V.V	A.V.V
22	1432	NIKAM ADITYA TANAJI	AB	AB	AB	AB	AB	AB
23	1433	*PALANGE BHUMI SANGRAMSING	AB	AB	AB	AB	AB	AB
24	1434	*PANHALKAR SUHANA RAHIMATULLA	AB	AB	AB	AB	AB	AB
25	1435	PARMAJ ADITYA AMOL	AB	AB	AB	AB	AB	AB
26	1436	*PATEL MANSI SUBHASH	Manish	Manish	Manish	Manish	Manish	Manish
27	1437	*PATEL SHRUTI PARESH	Shruti	Shruti	Shruti	Shruti	Shruti	Shruti
28	1438	PATEL MOHAMMAD ABRAR BABASAHEB	AB	AB	AB	AB	AB	AB
29	1439	PATIL ABHIMANYU VIJAY	AB	AB	AB	AB	AB	AB
30	1440	PATIL ABHISHEK BALASO	AB	AB	AB	AB	AB	AB
31	1441	PATIL ADITYA MANISH	AB	AB	AB	AB	AB	AB
32	1442	*PATIL ALISHA RAVINDRA	Alishap	Alishap	Alishap	Alishap	Alishap	Alishap
33	1443	PATIL AMOL ASHOK	Amol	Amol	Amol	Amol	Amol	Amol
34	1444	PATIL ANIKET DHONDIBA	AB	AB	AB	AB	AB	AB
35	1445	*PATIL ASMITA UTTAM	AB	AB	AB	AB	AB	AB
36	1446	PATIL ATHARV CHETAN	Chetan	Chetan	Chetan	Chetan	Chetan	Chetan
37	1447	*PATIL DNYANESHWARI ANKUSHIRAO	Ankush	Ankush	Ankush	Ankush	Ankush	Ankush
38	1448	*PATIL HARSHADA CHANDRAKANT	AB	AB	AB	AB	AB	AB
39	1449	PATIL KUNDAN MAHESH	Kundan	Kundan	Kundan	Kundan	Kundan	Kundan
40	1450	PATIL MAHESH DNYANDEV	AB	AB	AB	AB	AB	AB
41	1451	*PATIL MANDIRA UTTAM	Mandira	Mandira	Mandira	Mandira	Mandira	Mandira
42	1452	*PATIL MINAKSHI PRAKASHI	Minakshi	Minakshi	Minakshi	Minakshi	Minakshi	Minakshi
43	1453	PATIL PARAS PRAKASHI	AB	AB	AB	AB	AB	AB
44	1454	*PATIL PAYAL ANANDA	Payal	Payal	Payal	Payal	Payal	Payal
45	1455	PATIL PREMRAJ SHIVAJI	AB	AB	AB	AB	AB	AB
46	1456	PATIL RUSHIKESH PARASGONDA	AB	AB	AB	AB	AB	AB
47	1457	*PATIL SAMIKSHA BANDOPANT	Samiksha	Samiksha	Samiksha	Samiksha	Samiksha	Samiksha
48	1458	*SAMIKSHA SADASHIV PATIL	Samiksha	Samiksha	Samiksha	Samiksha	Samiksha	Samiksha

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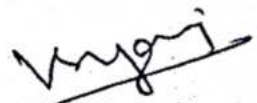
Date: 02/08/2025

All the students of BCA-III are hereby informed that there is **UNIT Test** of the subject **Computer Networks** on **05/08/2024** at **9.10 am-10.00 am**.

The test is of 20 Marks based on UNIT-I.

Attendance is compulsory to all.




(Mr. V.B. Pujari)

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Q1 Explain network architecture in detail:

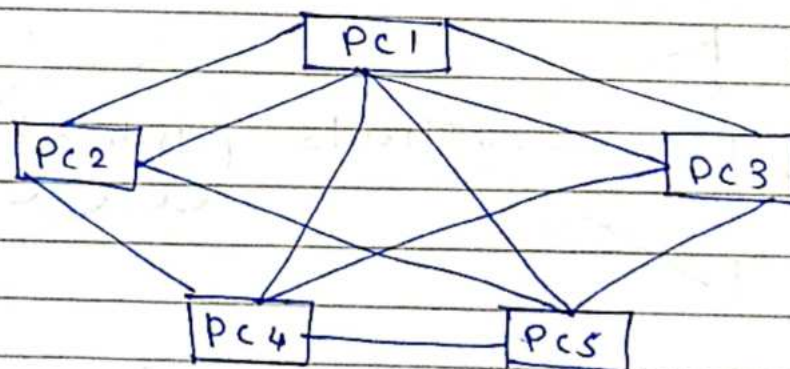
Computer network architecture is defined by the logical & physical designed of the software hardware protocols & media transmission of data. simply we can say that how computers are organized & how tasks are allocated to the computers.

There are two types of network architecture:

1] Peer to peer network:

2] client server network:

1] Peer to Peer Network:



Peer to peer network is a network in which all the computers are linked together & equal privileges & responsibilities.

Peer to peer network are useful for small environment usually up to the computers.

Peer to peer network has no dedicated server special permission are assigned to each computer for sharing the resources.

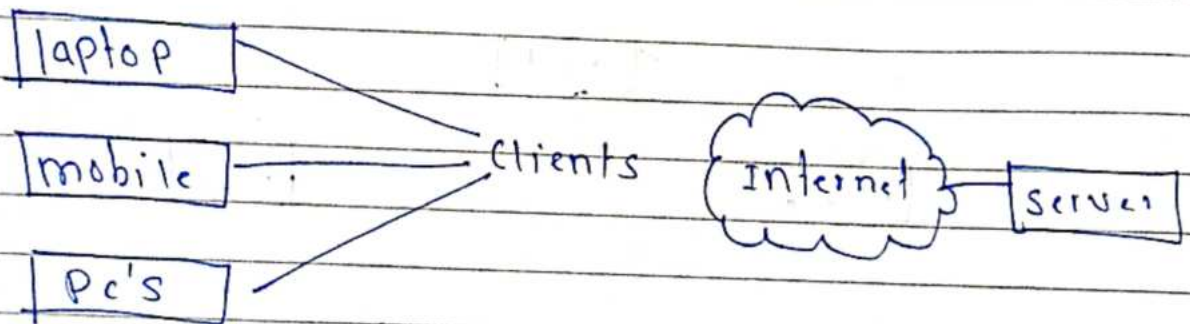
- Advantages:

- 1] It is less costly it has does not any dedicated Server.
- 2] It is easy to setup to maintain the computer will not stop working.

- Disadvantages:

- 1] In case peer to peer network does not contains centralized system.
- 2] It has security issues as devices it manages itself.

- 2] Client server Network:



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Client server network is a network model designed for the end users called clients to access the resources such as songs, videos, etc.

From central Controller is an server. while all others Computers in the network are called clients. A Server performs all the measures operations such as security & network management.

- Advantages:

- 1] A client network server contains the centralized system. therefore, we can backup the data easily.

2] Security is better in this network.

- Disadvantages:

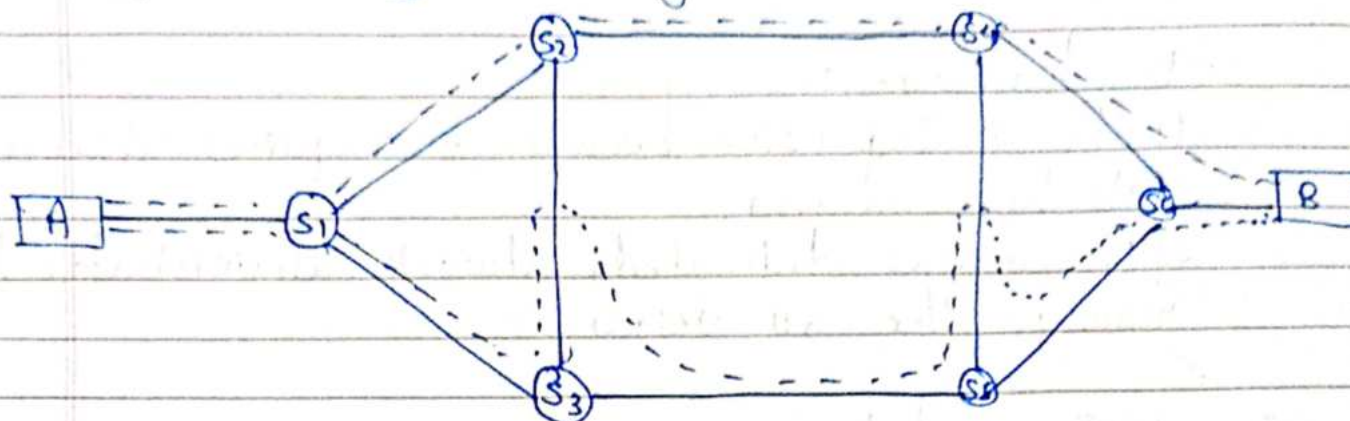
1] It is an expensive because it requires it server its huge memory.

2] It requires dedicated network administrator to manage the all resources.

Q2 Difference between:

Circuit switching	Packet switching
1] In this switching there are 3 phases. 1] Connection establishment 2] Data transfer 3] Connection released	1] In packet switching directly data pass transfer take place.
2] In delay between data units in circuit switching uniform	2] The data units in packet switching is not uniform
3] Circuit switching is more reliable	3] packet switching is less reliable.
4] It is not stored & forward techniques	4] It is stored & forward techniques.
5] Recording of packets is never possible.	5] Recording of packets possible.
6] call setup is required in circuit switching	6] no call setup is required in packet switching.

Q3 Explain message switching:



In the switching technique in which message is transfer as a complete unit & routed through intermediate nodes at which is stored & forwarded. The destination address is appended to the message. message switching provides a dynamic routing.

Each & every nodes stored the entire message & then forwarded in to the next node. this type of N/w is known as stored & forward network.

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- Advantages:

- 1] Data Channels & shared among the Communication device.
- 2] message priority can be use to manage N/w

- Disadvantage:

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- 1] The message switching must be equipped with sufficient storage to enable them.
- 2] The long delay can occur due to the storing and forwarding facility provided by the message switching technique.

Seat No	Name of the student	sign
1198	Bhumi Palange	Bhumi
1241	Swaranjali B. Patil	Patil
-	Namrata R. Patil	Patil
1202	Mansi Patel	Mansi Patel
1248	Minakshoo Patil.	Mip. Patil
1315	Pratiksha B. patil.	Patil.
1233	shradha K. Patil.	Patil
1239	Snehal. N. Patil	SNPatil
1234	shreya. s. patil	Patil
1230	Sanskriti. S. Patil	Patil
1213	Dnyaneshwari A. Patil	Patil
1177	Sanjana Santosh Mane.	Sanjana
1236	Shruti S. patil	Patil
1176	Pranjal. P. Mali	Pranjal
1193	Rajika. C. Narake	Rajika
1160	Ishwari V. Kundalkar	Kundalkar
1163	Sanavi D. Kurane	Kurane
1180	Sharrari Mohite	Mohite
1203	Shruti Patel	Patil
1237	shubham. m. patil	Patil
1183	Priyanshu. N. More	More
1232	Sarah Santosh patil	Patil
1216	Mahesh D. patil	Patil
1186	Jaid Mlyawar	Jaid
1188	AABSHAR MUKADAM	Aashwar
1179	Vrushab Mithari	V.R.M.
1190	Shreyash Nale	Nale
1211	Atharv patil	Atharv
1429	Karun Kambale	Karun

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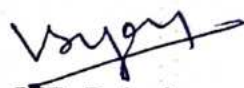
Date: 29/03/2025

All the students of BCA-I are hereby informed that there is **UNIT Test** of the subject **Object Oriented Programming using Java** on **03/04/2025** at **9.10 am-10.30 am**.

The test is of 30 Marks based on UNIT-I.

Attendance is compulsory to all.




(Mr. V.B. Pujari)

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Name :- Vaibhavi Umesh Bhurewar
Roll No. :- 21

classmate

Date _____
Page _____

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1. Explain basic concept of OOPs.
2. Distinguish betn Java, C & C++.
3. Define features of Java.
4. Short note -
 - 1) JVM
 - 2) Java and Internet
 - 3) Applications of OOPs.

Q1.

① Class :-

In the Object - oriented Programming language the concept class is user-defined by blue-print or protocol to classify objects. Multiple objects can be included in class by def to define objects of same category.

Modifiers -

types of modifiers

① Default - key access :-

Modifier which is formed by default keyword or by default is called default-key access.

② Private Access modifier :-

Modifier which is formed by private keyword is called Private Access modifiers.

③ Protected Access modifier :-

Modifier which is formed by key protected is called protected Access modifier.

② Object -

In Object oriented programming the concept object

③ Polymorphism -

Polymorphism is the concept of Object Oriented programming that defines as 'poly' means 'many' & polymorphism means many-forms. Combining multiple programme is called polymorphism.

There are two methods of polymorphism:-

① Method Overloading - Method overloading is also known as compile-time polymorphism.

② Method Overriding - Method overriding is also known as run-time polymorphism.

④ Inheritance -

The concept inheritance in object oriented programming states that the code inherits

Superclass

Subclass : subclass inherits

Subclass

⑤ Abstraction -

Abstraction is a ~~pre~~ concept of object-oriented programming that shows only essential or useful information or parts to the users. Abstraction doesn't display non-essential part of that particular thing. Example as, You are accelerating your car you are only able to increase or decrease that accelerator or same to the brakes you applied while driving car. You are able to only apply brakes But you don't know the inner function of this system or this mechanism is not displayed here. Abstraction is also same as this example. We just ^{see} the essential information or parts.

Q2. _____

• Origin

- C : It is originated from BCPL, BPL.
- C++ : It is derived from C.
- Java : It is derived from C & C++.

• Platform dependency

- C : It is platform dependent language.
- C++ : It is also platform dependent language.
- Java : It is platform independent language.

• Sourcefile extension

- C : It has .c sourcefile extension.
- C++ : It has .cpp sourcefile extension.
- Java : It has .java sourcefile extension.

Q4. _____

1) JVM - Java Virtual Machine (JVM) is based on JDK (Java Development Kit)

2) Applications of OOPs.

1) Game development:- Object oriented programming is ^{mostly} used in game development. It helps to develop games because of high network feature.

2) Software development :- Software development should also done by application of object oriented programming.

3) Security management :- OOPs also helps in security.

Q2. _____

→ Dynamic and static.

- C : It is static

- C++ : It is also static

- Java : It is Dynamic language.