"Dissemination of Education for Knowledge, Science and Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe

Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)

Department of Computer Science

2024-25

Class Tests

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR(EMPOWERED AUTONOMOUS)

DATE: 3/6/2025

CLASS : B.Sc.PART-I YEAR 2024-2025

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19	7285	Female	HAVALDAR HARSHA BALASO	Maths I_Electronics I_Computer Science I_IKS_Life Science I OE	
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Samiksha Shivaji Magdum

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(अधिकारप्रदत्त स्वायत्त)
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19/20

प्र. क्र.
Q. No.

1) What is list ? Explain characteristic of list
2) Explain following operators
i) Repetition
ii) Concatenation
iii) Iteration
iv) in not, in operators

3) Explain any four method of list with example, syntax

→1) List :-
The data structure in python which is mutable, changeable and ordered sequence of elements

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·Characteristics of list :-

① It is changeable.
② It is mutable type
③ The ordered sequence of element in the list
④ The list can be store a number of various elements

→ 2] i) Repetition :-

In the repetion the values of elements repeated at multiple times.

```
#Repetion of the list
#declaring the list
>>>list = ['A','B','C','D','E','F','G','H']
print(list*2)
print(list)
['A','B','C','D','E','F','G','H','A','B','C','D','E','F'
'G','H']
```

ii) Concatenation :-

Concatenation appear in the list mentioned as

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प्र. क्र.
Q. No.

2] clear() method :-

The clear() method removes all the element of the list.

syntax.

list.clear()

No parameter.

e.g.

```
>>> list = ['APPLE', 'BANANA']
>>> list.clear()
>>> print (list)
[]
```

3] copy() method :-

The copy() method return copy of the all the element.

syntax.

list.copy(~~element~~) (element)

element : Required the type of (strings, object, list).

e.g.

```
>>> list = [1,2,3,4,5]
```

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```
# Concatenation of two list
# declaring the list
list 1 = [10, 20, 30, 40]
list 2 = [50, 60, 70, 80, 90, 100]
print (list 1 + list 2)
```

[10, 20, 30, 40, 50, 60, 70, 80, 90, 100]

iii) Iteration :-

In the Iteration for loop is used to iterate the element of the list.

```
# Iteration of list
# declaring the list
list = ['A', 'B', 'C', 'D', 'E']
for i in range :
    print (i)
```

Output :-

A
B
C
D
E

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```
>>> list.copy()
>>> print(list)
>>> [1,2,3,4,5]
```

4] Reverse() method :-

The reverse() method return starting order of the element.

Syntax:

list.Reverse()

element: Required type (string, list.

e.g

```
>>> list = [1,2,3,4]
>>> list.Rev()
>>> print.(list)
>>> [4,3,2,1]
```

कोल्हापूर

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Vivekanand College Kolhapur

Department of Computer Science

BSc-II Sem -III

Surprise Test (Object Oriented Programming)

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4	7763	SHINDE SHRISHAIL SHRIPATI	Ab
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30	7789	POWAR SANIKA ASHOK	
31	7790	SAMRAT ALLI ASHRAF	
32	7791	SANKPAL ARATI BABAN	
33	7792	SUTAR MANISHA BAJARANG	
34	7793	SUTHAR MAINA OMPRAKASH	
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58	7817	MISAL SNEHAL UTTAM	
59	7818	NAYAKAWADE PRADNYA PANDURANG	
60	7819	NILKANTH SARTHAK NANDKISHOR	
61	7820	PATIL GAYATRI PRAKASH	
62	7821	PATIL PAYAL ASHOK	
63	7822	PATIL PRADNYA SARDAR	
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67	7826	PATIL SAKSHI SANJAY	
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69	7828	PATIL SHIVANI SARJERAO	
70	7829	PATIL SRUSHTI RAJESH	
71	7830	POWAR AMRUTA RAVSAHEB	
72	7831	POWAR ARYAN CHANDRAKANT	
73	7832	PUNEKAR MANSI SHAHU	
74	7833	RANDIVE DHANSHREE DEEPAK	
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76	7835	SALUNKHE DIGAMBAR SATISH	
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83	7842	UKKOJI PRAJKATA VITTAL	
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86	7762	PRAVIN BAJIRAO PATIL	
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OOP Test

10/10

प्र. क्र.
Q. No.

1. → 1) objects : In object oriented programming the objects an entity that has a state & behaviour associated with it may be any real world objects like keyboard, mouse.

2) class : A class is an collection of objects a class contain the blueprint or the prototype from which the objects are being created.

3) Inheritance : Inheritance is capability of one class to derive class or inherits the properties from another class. the class that device properties is called derived class or child class & the class from which the properties are being derived is called the base class or parent class.

4) polymorphism : Contain of two words 'poly' & morphs' poly means many & morph means shape by polymorphism many ways we understand that one task performed many ways

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प्र. क्र.
Q. No.

5) Abstraction: Abstraction is the process of hidding it is used to hide internal details & show only functionality also when we do not want to give out sensitive parts of our code implementation & this is where data abstraction came.

6) Encapsulation: In encapsulation code & data are wrapped together within a single units from being modified by accient it is used to restrict access to methods & variables.

(methods/variables)

2.

→ • Constructor is an instance method in a class that is automatically called whenever a new objects of the class is created.

• the constructor role is to assign value to instance variables as soon as objects is declare.

• Python uses a special method --init--() to intialise the instance variables for the objects. as soonasit is declared.

① Default constructor:

The Python constructor does not accept any parameter other than self. is called as default.

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प्र. क्र. Q. No.

Name :- Sairaj Sunil Katakar
Subject - OOP

9/10

Q1. Explain features of OOP.

1. Encapsulation :-

In Encapsulation code and data are wrapped together within a single unit from being modified by accident. It is used to restrict access to method & variable.

2. Inheritance :

Inheritance is the capability of one class to drive or inherit the properties from another class. The class that derives properties is called the derived class or child class and the class from which the properties are being derived is called the base class or parent class.

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प्र. क्र.
Q. No.

ex;

```
class employee :
        def --init--(self):
                self.city = "kolhapur"
                self. name = "priya"
e = employee ()
print (e.city)
print (e.name)
```

② Parameterized constructor:

If a constructor is define with a multiple parameters along with self is called parameterized constructor.

ex.

```
class employee:
        def --init--(self, name, age):
                self. name=name
                self age = age
e = employee("priya", 20)
print(e.name)
print(e. age)
```

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प्र. क्र.
Q. No.

Q2. What is constructor? Explain it's type with example.

In python, a constructor is a special method defined using --init--() . Its primary purpose is to initialize an object attribute when an instance of a class created. constructor allows for the setting of initial values for instance variable, ensuring that the object is in a valid state right after creation.

There are two types of constructor namely,

1) Default constructor :-

A default constructor dose not take any parameter other than self. It initializes instance variable with default values. It used when no specific initial values are required upon creating an instance.

```
class Car :
        def --init--(self) :
                self.make = " Unknown"
                self. model = " Unknown"

car1 = Car()
print ( car1.make , car1. model )
```

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प्र. क्र.
Q. No.

3. Polymorphism :-

Ability for different classes to be treated as instance of the same class through a common interface

4. Abstraction :

Abstraction is the hiding implementation details from end user and showing only functionalities.

5. Object

In OOP the object is an entity that has a state and behaviour associated with it. It may be any real world object.

6. Class :

A class is a blueprint for creating object. It defines a set of attributes & methods that are created object will have.

These principal helps in organising code, making it more modular, reusable & easier to maintain.

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Vivekanand College Kolhapur

Department of Computer Science

BSc-II Sem -IV

Surprise Test (Algorithm Analysis and Data Structure)

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9	7768	CHOUGULE SWEJAL AMAR	Ab
10	7769	CHOUGULE SWEJAL AMAR	Ab
11	7770	GAIKWAD URVEE UMESH	
12	7771	GURAV SAHIL SAMIR	
13	7772	HANNAH PRISCILLA MNGOLI	
14	7773	KADAM PRITIKA SURESH	
15	7774	KAMBLE SAKSHI SAGAR	Ab
16	7775	KANDALE AMRUTA ANANDRAO	
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19	7778	LAHIGADE PARTH SAGAR	
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22	7781	MORBALE VAISHNAVI PARSHRAM	
23	7782	PATIL BHAKTI SAMBHAJI	
24	7783	PATIL MADHURA ANANDA	
25	7784	PATIL SANIKA DAGADU	
26	7785	PATIL TEJAS POPAT	
27	7786	PATIL UTKARSHA NITIN	
28	7787	PATIL VIRAJ UTTAM	Ab
29	7788	PEDANEKAR SHIVAJI SATAPPA	
30	7789	POWAR SANIKA ASHOK	
31	7790	SAMRAT ALLI ASHRAF	
32	7791	SANKPAL ARATI BABAN	
33	7792	SUTAR MANISHA BAJARANG	
34	7793	SUTHAR MAINA OMPRAKASH	
35	7794	TELEKE NITASI SULU	
36	7795	TORASKAR SHRADDHA SUBHASH	
37	7796	VAGRE ROHAN SANJAY	
38	7797	VAIBHAV ANNASO KHOT	Ab
39	7798	VEER SNEHAL DILIP	

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40	7799	AWATE AKASH SURESH	
41	7800	BHATMARE VARSHARANI SANJAY	
42	7801	BHOSALE RAJLAXMI UDAYSINH	
43	7802	BORKAR ILA ASHISH	
44	7803	DESAI ATHARV ASHOK	
45	7804	DONGARE SAHIL SAMIR	
46	7805	DRAKSHE VEDANT SANJAY	
47	7806	GHUNAKE PRIYANKA VASANT	
48	7807	GIRIGOSAVI AMRUTA ANIL	
49	7808	HATGINE SHREYA RAHUL	
50	7809	JADHAV ANUJA DHANAJI	
51	7810	KAMBLE PRANALI PRADIP	
52	7811	KATAKAR SAIRAJ SUNIL	
53	7812	KHOT KIRTI SANDEEP	
54	7813	KHOT SRUSHTI SACHIN	
55	7814	KOKITKAR PRAGATI NAMDEV	
56	7815	KUMBHAR PRASAD PANDURANG	P.P.kumbhar
57	7816	MANE PRUTHVIRAJ LAXMAN	
58	7817	MISAL SNEHAL UTTAM	
59	7818	NAYAKAWADE PRADNYA PANDURANG	P.P.N
60	7819	NILKANTH SARTHAK NANDKISHOR	
61	7820	PATIL GAYATRI PRAKASH	
62	7821	PATIL PAYAL ASHOK	
63	7822	PATIL PRADNYA SARDAR	
64	7823	PATIL PRATIKSHA VIJAY	P.V.Patil
65	7824	PATIL PRERANA GANPATI	
66	7825	PATIL RUTUJA RAJARAM	
67	7826	PATIL SAKSHI SANJAY	
68	7827	PATIL SANIYA PRAKASH	
69	7828	PATIL SHIVANI SARJERAO	
70	7829	PATIL SRUSHTI RAJESH	
71	7830	POWAR AMRUTA RAVSAHEB	
72	7831	POWAR ARYAN CHANDRAKANT	
73	7832	PUNEKAR MANSI SHAHU	
74	7833	RANDIVE DHANSHREE DEEPAK	
75	7834	RAYAMANE ANURADHA RUDRANATH	
76	7835	SALUNKHE DIGAMBAR SATISH	
77	7836	SASANE VARSHALI SAMPAT	
78	7837	SATPUTE RASIKA VISHWANATH	
79	7838	SAVANT TRUPTI MANAJI	
80	7839	SHAIKH SHAHID SALAUDDIN	
81	7840	SHETKE SWAPNIL SUDHAKAR	
82	7841	SUTAR PRIYANKA PUNDLIK	
83	7842	UKKOJI PRAJKATA VITTAL	
84	7843	UNDALE AJINKYA KIRAN	

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85	7804	SAHIL SAMIR DONGARE	Dongare
86	7762	PRAVIN BAJIRAO PATIL	Ab
87	7817	SNEHAL UTTAM MISAL	Ab
88	7808	SHREYA RAHUL HATGINE	Shreya
89		MANASI JOTIRAM JADHAV	Madhav.

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।। ज्ञान, विज्ञान आणि संस्कार यासाठी शिक्षण प्रसार ।।
– शिक्षणमहर्षी डॉ. बापूजी साळुंखे

(अधिकारप्राप्त स्वायत्त)
कोल्हापूर

VIVEKANAND COLLEGE, KOLHAPUR.
(Empowered Autonomous)

SUPPLIMENT

Jr. Supervisor's Sign. :	
Students Sign. :	
Seat No. :	7828
Seat No. in words :	
Suppliment No. :	0040
Centre	

8/10

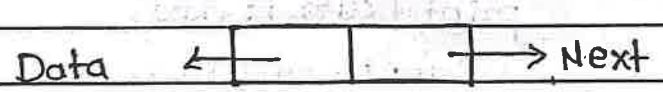
प्र. क्र.
Q. No.

Name : shivani Sarjerao Patil
ADT test

1) Explain singly linked list with example ?

- linked list is a collection of similar elements
- Each elements points to the next element
- A singly linked list is a linear combinations of nodes where each node contains 2 parts :

Data : the value stored in the node
Next : the references (or pointer) to the next node in the list



Program :

```
class node :
        def __init__(self, data):
                self.data = data
                self.next = None
        def
class SLL:
        def __init__(self):
```

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		Marks													

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Q. No.

```
        self.head = None
    def append (self, data):
        new_node = node(data)
        if not self.head:
            self.head = new_node
        else:
            current = self.head
            while current:
                current = current.next
            current.next = new_node
    def prepend (self, data):
        new_node = node(data)
        new_node.next = self.head
        self.head = new_node
    def print_list (self):
        current = self.head
        while current:
            print (current.data)
            current = current.next
        print ("None")
s = SLL()
s.append(10)
s.append(20)
s.append(30)
s.print_list ()
s.prepend (5)
s.print_list()
```

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प्र. क्र.
Q. No.

2) Explain stack ADT with example?

A stack can easily implemented using a list in python the list allows us to use built in methods such as append() (for pushing) and pop() (for popping) which are o(1) operations

```
class stackusinglist :
        def --init --(self):
                self.stack = [ ]
        def push (self, item):
                self.stack.append (item)
        def pop(self):
                if not self.isEmpty ():
                        return self.stack.pop()
                else :
                        raise IndexError("pop from empty stack")
        def peek (self):
                if not self.isEmpty ():
                        return self.stack [-1]
                else:
                        raise IndexError ("peek from empty stack")
        def isEmpty (self):
                return len (self.stack)
s= stack usinglist ()
s.push(10)
s.push(20)
```

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Q. No.

```
s.push(20)
s.push(40)
print(s.pop())
print(s.peek())
print(s.size())
```

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॥ ज्ञान, विज्ञान आणि सुंसस्कार यासाठी शिक्षण प्रसार ॥
– शिक्षणमहर्षी डॉ. बापूजी साळुंखे

(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

VIVEKANAND COLLEGE, KOLHAPUR.
(Empowered Autonomous)

SUPPLIMENT

Jr. Supervisor's Sign. :	
Students Sign. :	
Seat No. :	7815
Seat No. in words :	
Suppliment No. :	0044
Centre	

प्र. क्र. / Q. No.

Name :- Prasad Pandurang kumbhar
Sub :- ADT test

10/10

Q. Explain Singly Linked list with example.

A singly linked list is a type of linked list. A singly linked list is a collection of nodes where each node contain two parts.

1) Data - Actual data stored in node
2) Next - A reference to the next node in the list

The head of list point to the first node and the last node point to None which indicates the end of the list

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02	Section	Q. No.												
		Marks												

प्र. क्र.
Q. No.

```
class Node :
    def __init__(self, data):
        self.data = data
        self.next = None
class SLL:
    def __init__(self):
        self.head = None

    def prepend(self, value):
        new_node = Node(value)
        new_node.next = self.head
        self.head = new_node

    def traverse(self):
        current = self.head
        if current is None:
            print("List is Empty")

        else:
            while current:
                print(current.data, end="->")
                current = current.next
            print("None")

    def search(self, value):
        current = self.head
        while current:
            if current.data == value:
                return True
```

Q.

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प्र. क्र.
Q. No.

```
            current = current.next
        return False

S = SLL()
S.Prepend(10)
S.prepend(20)
S.Traverse()
print(S.Search(20))
```

Q. Explain stack ADT with example.

A stack is linear data structure that follows the Last-In-First-Out principle, this means that the most recently added element is the first one to be removed. You can imagine it like a stack of plates, the plates on the top is the one you remove first

Basic ~~stak~~ stack operations.

1) Push - Add item to the top of the stack
2) Pop - Remove & return item from the top of stack
3) Peek - View the top item in stack
4) is_Empty - check if stack is empty
5) size - Get the number of items in the stack

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		Marks												

प्र. क्र.
Q. No.

```
class Stack:
    def __init__(self):
        self.stack = []
    def Push(self, item):
        self.stack.append(item)
    def Pop(self):
        if not self.isEmpty():
            return self.stack.pop()
        else:
            raise IndexError("Pop from empty list
    def Peek(self):
        if not self.is_Empty():
            return self.stack[-1]
        else:
            raise IndexError("Peek from empty
                                list")
    def isEmpty():
        return len(self.stack) ==0

    def size(self):
        return len(self.stack)
s=stack()
s.Push(10)
s.Push(20)
s.Push(30)
print(s.pop())
print(s.peek())
print(s.isEmpty())
print(s.size())
```

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Vivekanand College, Kolhapur (Empowered Autonomous)		
Department of Computer Science,		
OBJECT ORIENTED SOFTWARE ENGINEERING		
Internal Class Test(22/01/2025)		
Roll No	**Name**	**Sign**
8281	Ahmed Sami Ali Tibin	
8282	Alanbagi Ahmed Qasim Hasan	Ab
8283	Asanekar Yash Tukaram	
8284	Bamane Sahil Nivruti	
8285	Bavache Shravani Bhimrav	Ab
8286	Bhadrage Abhishek Sunil	
8287	Bhosale Samruddhi Sanjay	
8288	Bongarde Saijal Dhanaji	
8289	Chougule Sai Chandrakant	sc.chougule
8290	Chougule Vaibhavi Jaysing	v.s.chougule
8291	Dhumale Sanika Santosh	Dhumale.
8292	Ghode Vaishnavi Shrikant	Ab
8293	Gurav Sanika Ravindra	SPGurav
8294	Harer Karan Uttam	
8295	Hirdekar Shreya Shashikant	
8296	Jangam Revati Mahendra	
8297	Kangralkar Gayatri Gundu	
8298	Khopkar Snehal Madhukar	Ab
8299	Kumbhar Diksha Yuvraj	Kumbhar
8300	Kumbhar Sanika Sanjay	Kumbhar
8301	Lambe Sanket Jaykumar	
8302	Mane Aarati Prakash	
8303	Mane Aditya Sharad	
8304	Misal Tulsi Prabhakar	Ab
8305	Nimbalkar Sairaj Nandkumar	
8306	Parpolkar Sanika Subhash	Parpolkar
8307	Patil Kirti Sambhaji	
8308	Patil Mansi Madhukar	

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8309	Patil Poonam Narsu	
8310	Patil Pradnya Pradip	
8311	Patil Prathamesh Bhagavan	
8312	Patil Prerana Vishwas	Ab
8313	Patil Rajvardhan Suresh	
8314	Patil Raviraj Bajirao	Ab
8315	Patil Sakshi Sambhaji	
8316	Patil Sanika Sambhaji	
8317	Patil Sanika Sunil	
8318	Patil Sharvari Kuldeep,	
8319	Patil Swapnil Suresh	
8320	Raorane Riddhi Satyawan	Ab
8321	Sawant Pratham Pradeep	
8322	Shete Anushka Sunil	
8323	Sutar Sharayu Prakash	Ab
8324	Tiwade Ketan Girishkumar	Ab
8325	Vhatkar Suhani Madhav	
8326	Waghamare Jay Dilip	
8327	Warange Niraj Rajesh	Ab
8433	Ghumai Dhiraj Babaso	
8431	Patil Sammed Dhanyakumar	Ab
8440	Giri Diksha Nandraj	
8438	Patil Riya Nitin	Ab

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Name : Anushka Sunil Shete .

Roll NO : 6322

Date : 22/01/25

6988

18/20

Signature of Jr. Super.

(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

विवेकानंद कॉलेज, कोल्हापूर. (अधिकरप्रदत्त स्वायत्त)

_____ परीक्षेच्या _____ या विषयाच्या प्रयोग परीक्षा

Practical Examination In, _____

at the _____ Examination

उमेदवराचा आसन क्रमांक _____ विभाग _____
(Candidate's Seat No.) (Section)

उमेदवारांना सूचना

१. प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
२. उपकरणांच्या वापराबाबत तुम्हांला काही माहीत नसेल तर परीक्षक किंवा प्रयोगशाळा सहाय्यक यांना तुम्हाला मदत करण्याविषयी विनंती करा.
३. कोणताही विद्युतप्रयोग करण्यापूर्वी, प्रत्यक्ष पुरविलेली सर्व उपकरणे आणि सर्व 'कनेक्शन' नीट पाहून घेऊन संबंधित कामाची नीटनेटकी कार्ययोजना करण्याची नितांत आवश्यकता आहे आणि ह्यानंतर पुढे काम चालू करण्याविषयी परीक्षकांची परवानगी मिळविणे आवश्यक आहे.
४. सर्व निरीक्षणे कोटकवजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे क्य तितक्या सुवाच्चपणे आणि स्पष्टपणे नोंदविलेले असणे हे हितावह आहे.
५. प्रारंभिक किंवा अंतिम निरीक्षणात संख्यावाचक आकडे एकावर एक लिहू नयेत. जर लिहिलेला कोणताही आकडा नको असेल तर त्यावर एक रेघ ओढून पाहिजे असलेला आकडा त्याच्याजवळ लिहा. प्रयोगशाळेतून बाहेर पडण्यापूर्वी आपले टेबल चांगल्या स्थितीत आहे याची खात्री करा.

INSTRUCTIONS TO CANDIDATES

1. Read the question carefully and perform the experiment as required.
2. If there by anything the apparatus that you do not know, ask the examiner or the laboratory assistant to help you.
3. Before doing any electrical experiment, it is absolutely essential that you make a neat working sketch of all apparatus actually provided and of the necessary connection and obtain the examiner's permission to proceed.
4. Express all observations in a tabular form. It is also desirable that all intermediate calculations and results should be entered as neatly and clearly as possible.
5. No numerical figures should be written over either in the preliminary or final observations. If any figure is shought to be discarded it should be run through and the desired figure written near to it.
6. Please see that your table is in good order before you leave the laboratory.

(येथून लेखनास सुरवात करा.) (Begin writing here.)

प्र. क्र. Q. No.	Questions :
Q1	Explain in detail OOAD concept
Q2	Explain with neat labelleb diagram UML Architechture
Q3	Explai Describe conceptual Modeling.

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02 Section	Q. No.												
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प्र. क्र.
Q. No.

Q 1

→ OOAD stands for object oriented analysis design.
OOAD contains of following terms:

1) Object: In OOAD object is real world entity. It can be either a objects or real-world thing like a Animal or car. object have its own properties. object represents a class.
For Example: class car.
Here object of class car will have properties like color, Model car name, Engine etc.

2) class:
class is a collection of same type of objects. class is like a blueprint. A class will contain object which have same attributes.
For Example: class Animal.
Animal class will contain objects which fulfill the attributes of class Animal

3) Inheritance:
Inheritance is a concept using which we can derive a child class from parent class. The class from which a new class is derived is called superclass. The newly derived class is called child class / subclass.
Following are the types of inheritance.
1) Singel Inheritance: From singel parent class only one child class is derived.

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	Marks													

प्र. क्र.
Q. No.

2) Multiple Inheritance: From two or more superclass singel child class is derived.

3) Multiple level Inheritance: From one superclass one childclass is derived and From derived child class one child class is derived.

4) Hirarchical Inheritance: From singel superclass multiple child classes are derived.

5) Hybrid Inheritance: It is a combination of two or more inheritance.

4. Polymorphism:
Polymorphism is a Greek word which means ability to take multiple forms. Using which we can change its internal structure but outside structure remains same.
Ex. class Area will contain function area() but for area of circle its internal will be different and for square it would be different.

5. Aggregation or Composition:
It contains a has-a and part-of relationship.
For example:
A car has a motor.
Here car is a aggregate and motor is a part of car.

~~For~~ In such a way above concepts explain the concept OOAD.

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		Marks												

प्र. क्र.
Q. No.

Q3. conceptual Modeling is a phase before going to UML diagram It's like a blueprint Before going to UML architechure. It That is Unified Modeling language conceptual Modeling is done to have a clearity about system.

Conceptual Modelling contains following terms:

1) class : class is a collection of objects having same attributes.
Ex. class Animal.
class Animal will contain objects which have properties of animals.

2) object : object is a real world entity which can be either a living or non-living thing. object represents a class.

3) Polymorphism : A Polymorphism is ability to take multiple form with having different internal structures.
Ex. Area() will contain different internal structure for area of rectangle and different structure for area of a square.

4) Abstraction : Abstraction is property of hiding unnessary things from end user. For ex. A car driver will focus on steering while driving not on a car engine.

5) Inheritance : Inheritance is the process of ~~hiding~~ deriving a subclass from superclass. The class from which subclass is derived called as Parent / superclass. The derived class is called child class / subclass.

6) Encapsulation : Encapsulation is the process of encapsulating multiple functions into under single function. In easy way grouping multiple functions.

This way above concepts explain the conceptual modelling.

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Name : Aarati Prakash Mane.

Roll. No : 8302

Date : 22/01/2025

6992

18/20

Signature of Jr. Super.

(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

विवेकानंद कॉलेज, कोल्हापूर. (अधिकरप्रदत्त स्वायत्त)

_____ परीक्षेच्या _____ या विषयाच्या प्रयोग परीक्षा

Practical Examination in, _____

at the _____ Examination

उमेदवराचा आसन क्रमांक _____ विभाग _____
(Candidate's Seat No.) (Section)

उमेदवारांना सूचना

१. प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
२. उपकरणांच्या वापराबाबत तुम्हांला काही माहीत नसेल तर परीक्षक किंवा प्रयोगशाळा सहाय्यक यांना तुम्हाला मदत करण्याविषयी विनंती करा.
३. कोणताही विद्युतप्रयोग करण्यापूर्वी, प्रत्यक्ष पुरविलेली सर्व उपकरणे आणि सर्व 'कनेक्शन' नीट पाहून घेऊन संबंधित कामाची नीटनेटकी कार्ययोजना करण्याची नितांत आवश्यकता आहे आणि ह्यानंतर पुढे काम चालू करण्याविषयी परीक्षकांची परवानगी मिळविणे आवश्यक आहे.
४. सर्व निरीक्षणे कोटक्वजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे क्य तितक्या सुवाच्चपणे आणि स्पष्टपणे नोंदविलेले असणे हे हितावह आहे.
५. प्रारंभिक किंवा अंतिम निरीक्षणात संख्यावाचक आकडे एकावर एक लिहू नयेत. जर लिहिलेला कोणताही आकडा नको असेल तर त्यावर एक रेघ ओढून पाहिजे असलेला आकडा त्याच्याजवळ लिहा. प्रयोगशाळेतून बाहेर पडण्यापूर्वी आपले टेबल चांगल्या स्थितीत आहे याची खात्री करा.

INSTRUCTIONS TO CANDIDATES

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6. Please see that your table is in good order before you leave the laboratory.

(येथून लेखनास सुरवात करा.) (Begin writing here.)

प्र. क्र. Q. No.	
Q.1	Explain in detail OOAD Concept.
Q.2	Explain with neat lable diagram UML architecture.
Q.3	Describe conceptual, modelling

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	Marks												

प्र. क्र.
Q. No.

Q. 3. Describe conceptual Modelling.

- Conceptual modelling :
  Concept model means the composed of interrelated concept of model. It makes is to understand the object of the system. And This is the first step of before drawing UML diagrams.

- There are some Object Oriented concept that needed to be with UML (Unified Modelling language)

- Object : Object is the real world entity. There can be many object present in a single system. It is the fundamental ~~block~~ of building block of UML.

- Class : Class is a software blueprint of object. that means it defines the variables and methods of all common objects used to diffrent purpose.

- Abstraction: Abstraction means the showing only important details of something while handling the unnessary part. It is help the pepole to understand something without knowing to heeded the critical part

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Q. No.

For example we use TV romote we only know the Romote and buttons that use to control TV but we don't know the critical circuit of the Romote. That is abstraction.

- Inheritance : It is the mechanism used to derive class from the existing one.
- Polymorphism: Polymorphism is the mechanism that have the object forms multiple object for the different purpose.
- Encapsulation : It bind data and object together and the act as single unit and also enabling tight binding.

Q.2 Explain in delail neat labled diagram of UML-

UML stands for Unified modelling language. it is the general purpose, graphical modelling language.

- The arthecture of UML involves the

1) Use Case View :
- It is the view that stores the functionality of the system and precieved by the external artifacts.
- It reveals the requirements of the system

2) Designe view :
- It is the view that shows the how the funchionality is designed inside the system in terms of static structure and dynamic behaviour.
- It captures the vocalubalry of the problem space and solution space.

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प्र. क्र.
Q. No.

- Vocabulary
- functionality

Configuration
- Config. management
- System assembly.

Design View		Implementation View

Use Case

Process View		Deployment View

- Performance
- Scalability
- Throughput

- Delivery
- Installation
- Distribution

Diagram of UML architecture.

3) Implementation View:
- It the view that represnt the organization of the core components and files.
- It primarily addresses the configuration management of the systems releases.

4) Process View:
- It is demonstrates view that correspondes to the performance of the system.

5) Deployment View:
- It is the view that demonstrate the delivery installion and distribution of the system.

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Saijal Dhanaji Bongarde.

BSc - III

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Signature of Jr. Super.

(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

विवेकानंद कॉलेज, कोल्हापूर. (अधिकरप्रदत्त स्वायत्त)

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(Candidate's Seat No.) (Section)

उमेदवारांना सूचना

१. प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
२. उपकरणांच्या वापराबाबत तुम्हांला काही माहीत नसेल तर परीक्षक किंवा प्रयोगशाळा सहाय्यक यांना तुम्हाला मदत करण्याविषयी विनंती करा.
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प्र. क्र.
Q. No.

Q.3 Before moving forward to conceptual modelling. We must know the basic concepts of UML (Unified model language)

Conceptual model is composed to several interrelated concepts. It is easy to understand the objects, And how they are interconnected with each other. This is the first step of before drawing the UML diagrams.

Following are some object - oriented concepts that are needed to begin with UML.

- Object :- An Object is a real world entity. There are various objects present within a software system. It is a fundamental building block of UML.

- Class : A class is a software blueprint for object. which means that it defines the variables & methods common to all the objects of a particular type.

- Abstraction : Abstraction is the process of portraying the essential essential characteristics of an object to the users while hiding the irrelevant information. Basically it is used to invision the functioning of an object.

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- Inhositance - It, is the process in which the new class is derived from existing class.

- Polymorphism - The mechanism in which represent multiple forms of object for different purpose.

- Encapsulation - It binds the data & object in a single unit. It enables the tight coupling between them

07

Q.2 UML stands for Unified modelling language is a ~~sp~~ specialized, general purpose modelling visual modelling language. It is for specifying, visualizing, documenting & constructing the primary artifacts of software system. It helps in designing and characterizing especially those software system that are incorporate with the concept of object oriented concept. It describes both the software and hardware systems.

UML was developed in the 1994-95 by the Grady Booch, Ivar Jacobson, James Rumbaugh at the Rational software. In 1997 it got adopted by the OMG, (Object Management Group) as a standard.

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प्र. क्र.
Q. No.

— Goals of UML.

- It is a Generalized modelling language.
- UML came into existance after the introduction of Object oriented concepts to systemize and consolidate the object oriented methods in the absence of standard methods at that time.
- The UML diagrams are made for business users, developers ordinary people and those who are looking forward to understand system. Such that system can software or non-software.

- Vocubulary
- functionality

Design view

- configuration management
- System assembly

Implementation view

Use Case

For Process View

- Performance
- Scalibility
- Throughout.

Deployment view

- Delivery
- Installation
- Distribution

- Implementation view

If the view that represent the organization of the core components & file.

- It primary addresses the configuration management of & system release.

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