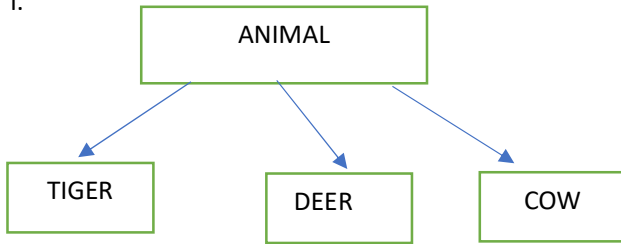


1. Choose the correct answer to the questions from the given option: -

[10]

i.



Identify the above image:

- a. Polymorphism b. class-object c. Inheritance d. abstraction

ii. The smallest individual unit of a program is called-

iii. If a local variable is having the same name as that of a global class element, then it

- a. hides the global variable b. gets hidden by global variable c. produces an error
d. none of the above

iv. Which keyword is used to inherit a class in Java?

- a. new b. create c. extends d. implement

v. float n[]={6.4,7.2,3.9,0.0};

System.out.println(Math.pow(n[3],0);

What will be the output:-

- a. 1.0 b.0.0 c.0 d. NaN

vi. following is true about static method

- a. It takes the name of the class b. It must have parameters in its prototypes c. It is called a class method
d. It is always void

vii. Invoking a method by passing an array to it is an example of

- a. Call by value b. call by reference c. call by method d. call by prototype

viii. The operator that operates on three operands is called:

- a. Binary b. unary c. ternary d. relational

ix. Assertion (A): Scanner class function can be used after importing the scanner class

Reason (R): The Scanner class is not imported by default like Math and String

- a. A and R are true and R is correct explanation of A.
b. A and R are true , but R is not the correct explanation of A.
c. A is True and R is False.
d. R is True and A is False.

x. Parameters in the method definition is called

- a. Actual parameters b. Formal parameters c. Local parameters d. Global parameters

2. Given that , p=2 and q=3. Evaluate the following expression to find p:

[2]

$p += ++p - q++ + p * q;$

3. Ratul executes the following program segment to find the sum of odd numbers in the range 1 to 10. The answer displayed is not correct due to some error in the code.

[2]

i. Name the error.

ii. Rewrite the code to get the correct answer: -

```
int sum=0, i=1;
do {
i=i+2;
sum+=i;
} while (i <10);
System.out.println(sum);
```

4. Rewrite the following program segment using while loop:

[2]

```
int c=123;
for(;c>0;c/=10)
System.out.println(c);
```

5. Write the java Expression:- [2]

$$\frac{\sqrt{(p+q)^3}}{|p-q|}$$

6. Find the output: [2]

```
char c[]={‘A’, ‘r’, ‘R’, ‘a’, ‘Y’ };
for (int i=4;i>0;i--)
    if( (int) c[i] > (int) c[4-i])
        System.out.println(c[i]);
    else
        continue;
a. Write the output of the above code.
b. Write the output if continue is replaced with break.
```

7. Write the following Programs using BLUEJ :-

i. Design a class Railway Ticket with following description: [15]

Instance variables/s data members:

String name: To store the name of the customer

String coach: To store the type of coach customer wants to travel

long mobno : To store customer’s mobile number

int amt : To store basic amount of ticket

int totalamt : To store the amount to be paid after updating the original amount

Member methods

void accept () — To take input for name, coach, mobile number and amount

void update ()— To update the amount as per the coach selected

Type of Coaches	Amount
First_ AC	700
Second_ AC	500
Third_ AC	250
sleeper	None

void display () — To display all details of a customer such as name, coach, total amount and mobile number.

Write a main method to create an object of the class and call the above member methods.

ii. Design a class to overload a function volume() as follows : [15]

a) double volume (double R) — with radius (R) as an argument, returns the volume of sphere using the formula.

$$V = \frac{4}{3} \times \frac{22}{7} \times R^3$$

b) double volume (double H, double R) – with height(H) and radius(R) as the arguments, returns the volume of a cylinder using the formula.

$$V = \frac{22}{7} \times R^2 \times H$$

c) double volume (double L, double B, double H) – with length(L), breadth(B) and Height(H) as the arguments, returns the volume of a cuboid using the formula.

iii. Do the following menu driven program:- [15]

‘a’: Display the following pattern:-

```
ABCDE
BCDE
CDE
DE
E
```

‘b’: series: $s = x^1 / 1 + 3x^3 / 3 + 5x^5 / 5 \dots$ upto n term.

iv. Write a program to take input an array of size [15]. Store total marks of students. Arrange the marks in descending order using Bubble sort technique. Now display marks of all the students who got more than 89. [15]