

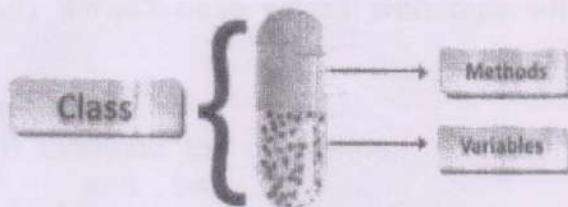
**GREENLAWNS HIGH SCHOOL**  
**FIRST TERMINAL EXAMINATION**  
**Computer Applications**

Std : X  
Date : 27/09/24

Time : 2 hrs  
Marks: 100

**Section A( 40 mks)**

Question 1 Select the correct option and write the answer. [20]  
(i) Name the java principle featured in the diagram.



- (a) abstraction (b) encapsulation (c) data binding (d) inheritance
- (ii) `if( (a<b)&&(a>c) )` then largest number is  
(a) b (b) c (c) a (d) none
- (iii) Select proper way of writing single line comment in the program  
(a) `\` (b) `//` (c) `/**` (d) `/*.....*/`
- (iv) The variables which are present in function call statement are called  
(a) formal (b) local (c) duplicate (d) actual
- (v) The array `char a[20]` occupy  
(a) 40 bits (b) 40 bytes (c) 20 bytes (d) 80 bits
- (vi) When array length is 15 then index varies from  
(a) 0 -15 (b) 1-15 (c) 1-14 (d) 0-14
- (vii) The keyword used to make variable into constant  
(a) `final` (b) `Final` (c) `new` (d) `finally`
- (viii) `int x='d'`; what is the value of x?  
(a) 68 (b) 69 (c) 100 (d) 101
- (ix) Select proper statement for constructor  
(a) The method which returns value or void  
(b) The method which has same name as that of class  
(c) The method which has two types – pure and impure  
(d) Program can not have more than one constructor
- (x) `do while` loop is  
(a) exit controlled loop (b) pre tested loop  
(c) infinite loop (d) entry controlled loop
- (xi) Which of the following is data type which has lowest memory capacity  
(a) `int` (b) `short` (c) `boolean` (d) `char`
- (xii) How is a primitive data type passed in Java?  
a) By value only  
b) By reference only  
c) Both by value and reference  
d) Java doesn't allow passing primitive data types
- (xiii) Choose the correct option that defines a prototype of the method "check" which receives a character `ch` and an integer `n` and returns true or false value.

- a) boolean check(char ch, int n)
- b) void boolean check(char ch, int n)
- c) boolean check(int ch, int n)
- d) boolean check(char ch, char n)

(xiv) Name the keyword used to call a package in the program

- a) package
- b) include
- c) call
- d) import

(xv) Identify the correct conversion

- (a) int num= 78.00 ;
- (b) int x=(double) 2.34;
- (c) char ch=65;
- (d) int n=( int ) 56.78 ;

(xvi) Identify correct literal

- (i) "g" (ii) True (iii) '23' (iv) 2.5

- (a) only (i) (b) (i) & (iv) (c) (iii) & (iv) (d) (i) & (ii)

(xvii) Give the output of the following array

```
char ch []={'a','2','d','D','4'};
```

```
System.out.print( (int)ch[1]);
```

- (a) 66 (b) 100 (c) 50 (d) 101

(xviii) Assertion (A) : In explicit conversion there is a loss of data.

Reason (R) : It is forceful conversion where higher data type variable is converted lower data type.

- (a) Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation .
- (b) Assertion (A) and Reason (R) are true and Reason (R) is a not correct explanation .
- (c) Assertion (A) is: true and Reason (R) is false
- (d) Assertion (A) is: false and Reason (R) is true

(xix) Assertion (A) The loop for is called entry controlled loop.

Reason (R) : As condition is written at the end and it is checked while exiting the loop.

- a) Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation .
- b) Assertion (A) and Reason (R) are true and Reason (R) is a not correct explanation .
- c) Assertion (A) is: true and Reason (R) is false
- d) Assertion (A) is: false and Reason (R) is true

- (xx) Conditional statements provided in java are if else if and switch case. They also known as selection statement. switch case is a branching statement which allows only int and char data type and only one relational operator == . But if else if allows all data types and all operators.

Reading above paragraph select correct statement

- (a) switch case is restricting all data types
- (b) if else if allows only few data types : int and char
- (c) All operators are allowed in switch case statement
- (d) switch case works with only one relational operator

### Question 2

- (i) Evaluate the expression [2]

a=5 , b=7

x=++a/2 + b - -%3+ b\*a

- (ii) Write java expression  $|x^2+y^2+z|$  [2]

- (iii) Rewrite the following using ternary operator [2]

if(sum!=0)

sum\*=2;

else

sum=0;

- (iv) char ch='F'; int n=65; [2]

int x:n+ch ; x=?

- (v) x=10 , y= 11 [2]

(a) !(++x==y)

(b) (y-x)>(x-y)

- (vi) int a[] = { 2,8,9,6,12} [3]

System.out.println(a.length);

System.out.println(a[1+2]);

System.out.println(Math.sqrt(a[2]));

- (vii) System.out.println("Happy "+"\" "+"Festival "+"\" "+""); [2]

- (viii) How many times following loop will execute and write output [2]

int n=87234;

do

{ n/=10;

System.out.print(n+" "); }while(n>0);

- (ix) Vasu want to find largest of 2 numbers . He is getting an error in the following code. Name the error and rectify the code. [3]

class large

{

void find( int a , int b)

{

System.out.print(math. MAX( a,b) )

}

}

(Section B)

(Answer any 4 questions from this section.)

(Each program should be written using variable description table)

Question 3

[15]

Define a class name Employee with following description as follows

member variables : eno- employee number

name - employee name , salary

(declare above variables using proper data types )

member methods :

void input( )- accept name , number and salary of employee

void calculate() - calculate tax as follows :

salary	tax
$\leq 1$ lakh	nil
$> 1$ lakh- $\leq 5.5$ lakhs	7% of salary
$> 5.5$ lakhs- $\leq 10.5$ lakhs	7000+10% of salary
$> 10.5$ lakhs	10,000+12% of salary

void print( )- display employee details with tax

Call all the above methods in main method using object.

[15]

Question 4

Design a class to overload a method pattern( ) as follows :

void pattern( int n) - 55555

4444

333

22

1

void pattern( int a , int b) - &&&&

&&&&

&&&&

[15]

Question 5

WAP to accept a number and check if it is *EvenPal* number or not.

The number is said to be *EvenPal number*, when number is a palindrome

( the original number and reverse number is same.) and sum of its digits is even number.

e.g. number 121 : after reversing a number you get 121 and sum of its digits is  $1+2+1=4$  which is a even number.

Question 6

[15]

Define a class to overload method Learn( ) as follows :

void learn(int n) - generate fibonacci series : 0 1 1 2 3 5 8.....n

void learn( )-  $1/1+2/3+3/4+4/5.....9/10$

[15]

Question 7

Write a program to accept 20 numbers from users . Arrange them using *bubble sort* technique . Display them in ascending order before and after sorting.

[15]

Question 8

Write a program to accept 20 numbers from user , then accept search element from user. Using *linear search* technique search in the array . If number is found display message number is found Otherwise display message not found.