

Name Bhagat

Enrollment No: 2303051051232

PARUL UNIVERSITY

SET-B

FACULTY OF ENGINEERING & TECHNOLOGY
Scholar Program Test - 2nd Sem

Date: _____

Time: 60 min

Total Marks: 50

Instructions:

1. All questions are compulsory.
2. Each Question carries 1 mark. There is no negative marking.
3. Make suitable assumptions wherever necessary.
4. Mark your response by circling the correct option in the OMR sheet given at the back,

1. Choose a correct statement regarding automatic variables.

- A. #include<stdio.h>

main()
{
 auto int a;

 printf("%d", a);
}

//output is compiler error. a is not initialized.
- B. #include<stdio.h>
main()
{
 auto int a;

 printf("%d", a);
}
//output = 0
- C. #include<stdio.h>
main()
{
 auto int a;

 printf("%d", a);
}
//output = null
- D. #include<stdio.h>
main()

```
{  
    auto int a;  
  
    printf("%d", a);  
}  
//output = some random number
```

2. Which of the following header file must be included in your property if you want to use graphics property?

- A. screen.h
- B. graphics.h
- C. graph.h
- D. stdio.h

3. What will be the output of the program If characters 'a', 'b' and 'c' enter are supplied as input?

```
#include<stdio.h>  
int main()  
{  
    void fun();  
    fun();  
    printf("\n");  
    return 0;  
}  
void fun()  
{  
    char c;  
    if((c = getchar()) != '\n')  
        fun();  
    printf("%c", c);  
}
```

- A. abc abc
- B. bca
- C. infinite loop
- D. cba

4. What will be the output of the following pseudocode for p = 3 and q = 4? int fun1(int p, int q)

```
if(q EQUALS 0)  
    return 0  
if(q mod 2 EQUALS 0)  
    return fun1(p + p, q/2).  
    return fun1(p + p, q/2) + p  
End function fun1()
```

- A. None of the options
- B. 7

C. 12
D. 8

5. How would you use the fgets function to read a line of text from a file in C?

- A. fgets(buffer, sizeof(buffer), stdin);
- B. fgets(stdin, buffer, sizeof(buffer));
- C. fgets(sizeof(buffer), buffer, stdin);
- D. buffer = fgets(stdin, sizeof(buffer));

6. What is the output? #include <stdio.h>

```
int main()
{
    int x = 1;
    short int i = 2;
    float f = 3;
    if (sizeof((x == 2) ? f : i) == sizeof(float))
        printf("float\n");
    else if (sizeof((x == 2) ? f : i) == sizeof(short int))
        printf("short int\n");
    return 0;
}
```

- A. float
- B. short int
- C. int
- D. Compile time error

7. What is the output? #include <stdio.h>

```
int main()
{
```

```
int a = 1;  
int b = 1;  
int c = a || --b;  
int d = a-- && --b;  
printf("a = %d, b = %d, c = %d, d = %d", a, b, c, d);  
return 0;  
}
```

- A. a = 0, b = 0, c = 1, d = 0
- B. a = 0, b = 0, c = 1, d = 1
- C. a = 1, b = 1, c = 1, d = 0
- D. a = 1, b = 1, c = 1, d = 1

8. What will be the value of 'a' after the following code is executed
`#define square(x)x*x`

- A. 10
- B. 11
- C. 12
- D. 13

9. Choose a correct form of using C Conditional Compilation commands IF ELSE .?

A. #IF macroname

statement1;

statement2;

#ELSE

statement3;

statement4;

#END

B. #IF macroname
statement1;

C.

D.

10.

A.

B.

C.

D.

11.

A.

B.

C.

D.

- statement2;
#ELSE
statement3;
statement4;
#ENDIF
- C. #IFDEF macroname
statement1;
statement2;
#ELSE
statement3;
statement4;
#ENDIF
- D. #ifdef macroname
statement1;
statement2;
#else
statement3;
statement4;
#endif
10. What will be the value returned by the following function, when it is called with a value 11?

```
recur(int num)
if ( ( num/2 ) !=0 )
    return ( recur(num/2 ) * 10+num%2 );
else return 1;
```
- A. Function does not return any value, because it goes into an infinite loop
- B. 11
- C. 1011
- D. None of the above
11. What is the difference between scanf("%d", &x) and gets(str) in C?
- A. scanf reads input from the standard input, and gets reads input from a file
- B. scanf reads integers, and gets reads strings
- C. scanf is used for formatted input, and gets reads a line of text
- D. There is no difference; they are interchangeable

12. Consider the following code snippet: #include <stdio.h>

```
void mystery(int n) {  
    if (n > 0) {  
        mystery(n - 1);  
        printf("%d ", n);  
    }  
}
```

```
int main() {  
    mystery(3);  
    return 0;  
}
```

What will be the output?

- A. 1 2 3.
- B. 3 2 1.
- C. 1 2 3 3 2 1.
- D. 3 1 2.

13. What does the arrow operator (\rightarrow) do in C when used with a pointer?

- A. Performs bitwise AND operation.
- B. Accesses the value pointed to by the pointer.
- C. Accesses a member of a structure or a class pointed to by the pointer.
- D. Allocates memory for a new variable.

14. Consider the following C code: #include <stdio.h>

```
void modifyArray(int arr[], int size) {  
    for (int i = 0; i < size; i++) {  
        arr[i] = arr[i] * 2;  
    }  
}
```

```
int main() {  
    int arr[] = {1, 2, 3, 4, 5};  
    modifyArray(arr, 5);
```

```
    for (int i = 0; i < 5; i++) {  
        printf("%d ", arr[i]);  
    }
```

```
    return 0;  
}
```

What will be the output of the program?

- A. 1 2 3 4 5

B. 2 4 6 8 10

C. 1 4 9 16 25

D. 2 3 4 5 6

15. What is the size of arr in the given code? (Assume that character occupies 1 byte) `typedef char x[10]; x arr[5];`

A. 5 bytes

B. 10 bytes

C. 40 bytes

D. 50 bytes

16. What is the output of the given code? `#include <stdio.h>`

```
int main()
{
    int a[5] = {1,2,3,4,5};
    int *ptr = (int*)(&a+1);
    printf("%d %d", *(a+1), *(ptr-1));
    return 0;
}
```

A. 2 5

B. Garbage Value

C. Compiler Error

D. Segmentation Fault

17. What is the meaning of using extern before function declaration? For example following function sum is made extern

```
extern int sum(int x, int y, int z)
```

```
{
```

```
    return (x + y + z);
```

```
}
```

A. Function is made globally available

B. extern means nothing, sum() is same without extern keyword.

C. Function need not to be declared before its use

D. Function is made local to the file.

18. How is search done in #include and #include "somelibrary.h" according to C standard?
- A. When former is used, current directory is searched and when latter is used, standard directory is searched
- B. When former is used, standard directory is searched and when latter is used, current directory is searched
- C. When former is used, search is done in implementation defined manner and when latter is used, current directory is searched
- D. For both, search for 'somelibrary' is done in implementation-defined places
19. What does the following declaration indicate?
int x: 8;
- A. x stores the value of 8
- B. x is 8 bit integer
- C. Both A and B
- D. None of the above
20. Which of the following is not a storage class specifier in C?
- A. auto
- B. register
- C. static
- D. volatile
21. Study the following program:
- ```
main()
{
 char x [10], *ptr = x;
 scanf ("%s", x);
 change(&x[4]);
}
change(char a[])
{
 puts(a);
}
```
- If abcdefg is the input, the output will be
- A. abcd
- B. abc
- C. efg
- D. Garbage
22. Which is correct with respect to the size of the data types in C?

- A. char > int > float  
B. char < int < float  
C. int < char < float  
D. int < char > float

23. Out of the following, which one is not valid as an if-else statement?

- A. if ((char) x){}  
B. if (x){}  
C. if (func1 (x)){}  
D. if (if (x == 1)){}

24. Predict the output of the following pseudocode for x = 10, y = 5. Integer solve(Integer x, Integer y)

```
if(y > 0)
if(x > 0)
return x + y + solve(2, y - 5) + solve(x - 10, 1)
```

End if

End if

return x + y

End function solve()

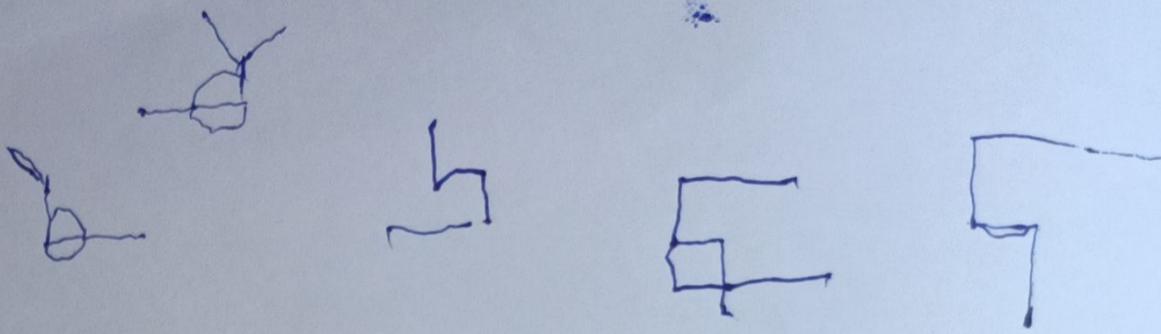
- A. 15  
B. 18  
C. 17  
D. 13

25. Consider the following C program #include<stdio.h>

```
int main(){
int a[]={2,4,6,8,10};
int i,sum=0,*b=a+4;
for(i=0;i<5;i++)
{
sum=sum+(*b-i)**(b-i);
}
printf("%d\n",sum);
return 0;
} The output of the above C program is _____.
```

- A. 10  
B. 11  
C. 12

D. 9



26. Jyoshna is walking towards the South for 15 km, turns left and walks another 10 km. She then turns right and walks 10 km. Now, she again takes a right turn and walks 30 km. Which direction is she from the starting point?
- A. South-East  
B. North-East  
C. North-West  
 D. South-West
27. Mohan is facing East and walks 10 km. He turns  $270^\circ$  clockwise and walks 5kms. Now, he again turns  $45^\circ$  anti clockwise and walks for 15kms. Which direction is he facing now?
- A. North-West  
 B. South-West  
C. North-East  
D. South-East
28. Find  $(9x + 4y)/(2x-y)$ , if  $x/2y = 5/2$
- A. 9  
B.  $49/9$   
C.  $81/7$   
D.  $27/2$
29. The number of trees in different parks of a city are 33, 38, 48, 33, 34, 34, 33 and 24. The mode of this data is
- A. 33  
B. 48  
C. 24  
D. 34
30. A man sold two tables at Rs. 1,200 each. On one he gained 30% and on the other, he lost 30%. Then, the profit or loss in the whole transaction is approximately
- A. 7% loss  
B. 8% loss  
 C. 9% loss  
D. 10% gain

$$\frac{9x + 4y}{2x - y} = \frac{45y + 8y}{9y - 4y} = \frac{53y}{5y} = 10.6$$

31. \*\*Directions:\*\* In the following question few statements are given, which are followed by four conclusions. Choose the conclusions which logically follow from the given statements.

\*\*Statements:\*\*

Some Milk is Jersey.

Some Milk is gold.

No Grains is Milk.

\*\*Conclusions:\*\*

I. Some Jerseys are gold.

II. Some gold is Milk.

III. Some Grains are Jersey.

IV. Some Grains are gold is a possibility.

- A. Only conclusion (I) follows.
- B. Only conclusion (II) follows.
- C. Both conclusion (I) and (III) follows.
- D. Both conclusion (II) and (IV) follows.

32. A successive discount of 20% and 10% is equivalent to a single discount of how much percent?

- A. 28%
- B. 30%
- C. 25%
- D. 22%

33. A faulty clock which loses 5 min every 4 hours was set right at 9 a.m. What would be the correct time when the clock shows 9 p.m. on the same day?

- A. 9 hours 15 minutes.
- B. 8 hours 12 minutes.
- C. 9 hours 42 minutes.
- D. 8 hours 42 minutes.

34. In a clock, the time displayed is 6 p.m. At what angle will the hour hand rotate when the clock shows 3 a.m.?

- A. 120 degree
- B. 160 degree
- C. 180 degree

D. 270 degree

35. A mixture has milk and water in the ratio 1 : 2. If 10 liters of water is added to the mixture, the ratio becomes 2:5. Find the quantity of milk in the given mixture.

- A. 25  
B. 15  
C. 20  
 D. 30

36. How many 4's are followed by odd numbers and preceded by odd numbers?  
\*\*9 0 2 1 4 9 8 0 4 9 4 7 2 6 7 5 6 7 8 3 4 9 9 7 6 7 7 8 9 0 2 7\*\*

- A. 0  
B. 1  
C. 2  
 D. 3

37. In the following question, select the corresponding word from the given alternatives.  
\*\*Sikkim: Rohtang::? : Siachen\*\*

- A. Ladakh  
B. Himachal Pradesh  
C. Assam  
D. West Bengal

38. The Average of four consecutive even numbers is 27. What is the highest of those four numbers?

- A. 38  
B. 32  
C. 30  
 D. 40

39. How many trailing zeroes (zeroes at last) are present at last in the result of  $10!$

- A. 4  
B. 3  
 C. 2  
D. 1

40. In the following question choose the word group which is different from others.

- A. Bhutan: Archery  
B. Italy: Football

51 - 60 - A

- C. Indonesia : Badminton
- D. Cuba: Weightlifting

41. What should come in the place of question mark (?) in the given series?  
\*\*7, 8, 14, ?, 176, 885\*\*

- A. 45
- B. 54
- C. 60
- D. 56

42. What should come in the place of question mark (?) in the given series?  
\*\*380, 399, ?, 494, 570, 665\*\*

- A. 427
- B. 454
- C. 437
- D. 444

43. In a certain language \*\*GAUHATHI\*\* is coded as \*HBVIBUIJ\*, how is \*\*SRINAGAR\*\* coded in that language?

- A. TSJRBHBS
- B.  TSJOBHBS
- C. USJOBHBS
- D. TSJOBHBT

44. A certain number is divided by 899 leaves remainder 63. Find the remainder when the same number is divided by 29.

- A. 5
- B. 10
- C. 15
- D. NONE OF THE ABOVE

45. If 15 men reap a field in 28 days. In how many days will 10 men reap the same field?

- A. 15
- B.  42
- C. 20
- D. 30

46. Find the sum of all even natural numbers from 25 to 50?

- A. 494
- B. 594

W - J - 12  
C. 694

D. 794

47. At Compound Interest a certain sum becomes four times in 5 years. In how many years will it become 16 times?

A. ✓ 8 yrs

B. 12 yrs

C. 15 yrs

D. 10 yrs

48. If a and b are whole numbers and  $a^b = 144$  then, find the value of  $(a - 1)^{(b+1)}$

A. 121

B. 144

✓ C. 1331

D. 1728

49. Introducing a gentleman, a woman said, "His father is the only son of my mother." How is the gentleman related to the woman?

A. Son

B. Father

C. Brother

✓ D. Nephew

50. A woman pointing to a photograph says, "The man in the photograph is my nephew's paternal grandfather". How is the man in the photograph related to the woman's one and only brother?

✓ A. Father

B. Cousin

C. Mother-in-law

D. Sister-in-law