

GULF SAHODAYA (SAUDI CHAPTER) EXAMINATION 2017-18
COMPUTER SCIENCE(083)
CLASS: XI

General Instructions:

- (a) All questions are compulsory
- (b) Marks are indicated against each question
- (c) Programming language : C++

Time: 3 Hours

Max. Marks: 70

1. Name any two first generation computers. 1
2. What is a microprocessor? 1
3. What are the different types of operating system? Explain any two. 2
4. Define Shareware and Proprietary software? 2
5. Convert the following:
 - i. $(423)_{10} = ()_{16}$ 1
 - ii. $(11010110.0111)_2 = ()_8$ 1
6. Give the full form of:
 - i. EPIC 2
 - ii. ASCII
7. What is the role of comments and indentation in a program? 2
8. Why is program maintenance required? What are the different kinds of maintenance? 2
9. Define the following: 2
 - a) Object Code
 - b) Guard Code
10. What are logical errors? Why are logical errors difficult to identify? 2
11. What are the characteristics of a good program? 2
12. Define the following: 2
 - a) Robustness
 - b) Documentation
13. Write the type of C++ tokens (keywords or user defined Identifiers) from the following: 2
 - i) While
 - ii) case
 - iii) Num_2
 - iv) for

14. What are non-graphic characters? How are nongraphic characters represented in C++? 2
15. What are data type modifiers? How do they affect a base data type? 2
16. What do you mean by dynamic initialization of a variable? Give an example. 2
17. Differentiate between type promotion and type casting. 2
18. Construct a logical expression to represent the given condition: 1
 Either age is more than 70 or members are more than or equal to 8.
19. Determine the value of c, if a = 5 and b = 3. (a, b and c are int type) 1
 $c = a - (b++) * (--a);$
20. Write the corresponding C++ expressions for the following mathematical expressions: 1
 $((2x+3y) / (5w+6z))^{3/2}$
21. Which C++ header file(s) will be essentially required to be included to run/execute the following C++ code: 1
- ```
void main()
{
 double X, Times, Result;
 cin>>X >> Times;
 result = pow(X, Times);
 cout<< Result <<endl;
}
```
22. What is the difference between Global Variable and Local Variable? Also, give a suitable code to illustrate both. 2
23. What will be the value of x and y after the following loop is executed? 1  
`int y = 5;`  
`for( int x = 1 ; x <= 10 ; x += 3)`  
`cout<< y- - ;`
24. Rewrite the following code segment using **if-else** statement: 2  
`int salary, age;`  
`cin>>age;`  
`salary = (( age > 35 ) ? 6000 : (age >28) ? 4800 : 3000);`  
`cout<<salary;`

25. Rewrite the following program after removing the syntactical errors ( if any). 2  
 Underline each correction.  
 Note: Assume all required header files are already being included in the program.

```
define Perimeter (L, B) = 2*(L + B)
void main()
{
 float X = 3.2 ; Y= 4.1 ;
 R = Perimeter(X, Y) ;
 cout<< 'Result = ' << R <<endl ;
}
```

26. Study the following program and select the possible output(s) from the options (i) to (iv) following it . Also , write the maximum and the minimum values that can be assigned to the variable VAL. 2  
 Note: Assume all required header files are already being included in the program.

```
void main()
{
 randomize();
 int VAL;
 VAL = random(3) + 2;
 char GUESS[] = "PQRSTUVWXYZ";
 for(int i= 1 ; i<= VAL ; i++)
 {
 for(int j=VAL ; j<=7 ; j++)
 cout<< GUESS[j];
 cout<<endl;
 }
}
```

- |              |           |          |         |
|--------------|-----------|----------|---------|
| i)QRSTUVWXYZ | ii)RSTUVW | iii)TUVW | iv)UVWX |
| QRSTUVWXYZ   | RSTUVW    | TUVW     | UVWX    |
|              |           | TUVW     | UVWX    |
|              |           | TUVW     | UVWX    |

27. Give the output of the following program. 2

```
#include<iostream.h>
int func (int &x , int y =10)
{
 if (x % y == 0) return - -x; else return - -y ;
}
```

```

void main()
{
 int p=20, q=40;
 q = func (p ,q);
 cout<<p<<q<<endl;
 p= func(q);
 cout<< p <<endl;
 q = func(p);
 cout<< q <<endl;
}

```

28. Give the output of the following program.

2

```

#include<iostream.h>
#include<string.h>
void main()
{
 char Text[] ="COMPUTER2017";
 for(int L= 0 ; Text[L] != '\0' ; L++);
 for(int C = 0 ; C < L/2 ; C++)
 if (Text[C] == 'O' || Text[C] == 'U')
 Text[C] ='#';
 else
 {
 char Temp = Text[C];
 Text[C] = Text[L-C-1];
 Text[L-C-1] = Temp;
 }
 cout<<Text<<endl;
}

```

29. Give the output of the following program.

3

```

#include<iostream.h>
struct Dimension
{ int L , B , H;
};
void Occupies(Dimension M)
{
 cout<<M.L<<" " <<M.B<<" " <<M.H<<endl;
}
void main()
{
 Dimension D1={100, 120,10}, D2, D3;
 D1.L++;
 D1.B += 5;
 Occupies(D1);
}

```

```
D2=D1;
++D2.B;
D2.H - -;
D2.L += 25;
Occupies(D2);
D3 = D1;
D3.H = 10;
--D3.B;
Occupies (D3);
}
```

30. Write a program to find the sum of the digits of a given number. 3
31. Write a program to count the number of vowels in a given string. 3
32. Write a program that invokes a function ReverseHalf() which takes an integer array and its size as arguments and reverses the first half of the array with the second half and display it. 4
33. Write a program to find the sum of all numbers ending with 5 in a one dimensional array . 4
34. Write a program to find the sum of two matrices . 4

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