

# Model Question Paper - 2

First Terminal Examination 2018-19

Class: XI

Code No. 083

- Please check that this question paper contains 3 printed pages.
- Please check that this question paper contains 7 questions.
- Please write down the serial number of the question before attempting it.

## COMPUTER SCIENCE

*Time allowed: 3 hours*

*Maximum Marks: 70*

### *Instructions:*

- (i) *All questions are compulsory.*
- (ii) *Section A consists of 45 marks and Section B consists of 25 marks.*
- (iii) *Programming language: Python.*

### SECTION - A

1. (a) What is Cross platform software? 1
- (b) Write any two commonly used IDEs of Python language. 1
- (c) Identify invalid identifiers from the following with reason. 1
  - (i) **WHILE**
  - (ii) **Continue**
  - (iii) **for**
  - (iv) **BREAK**
- (d) What are the advantages of Python over other languages? 2
- (e) Write the output of the following program 1

```
X,Y = 20,60
Y,X,Y = X,Y-10,X+10
print(X,Y)
```
- (f) Find errors in the following code fragments: 2
  - (i) `print(X=5)`
  - (ii) `A=input("Value")`  
`B = A/2`  
`print(A,B)`
2. (a) What are variables? How are they important for a program? 2
- (b) Write a program to obtain Principal amount, Rate of interest and Time from user and compute Compound Interest. 3
- (c) Find the output of the following python code: 2

```
a, b, c = 2, 3, 4
a, b, c = a*a, a*b, a*c
print(a,b,c)
```
- (d) What are legal numeric types in python? Explain each with an example. 2
- (e) Identify errors in the following: 2
  - (i) `List = [1,2,3,4]`  
`List[4] = 5`
  - (ii) `Name= "Raj Kumar"`  
`Name[-6]=" $"`

- (f) Given three Boolean variables a, b, c as **a = True, b = False** and **c = False**. Evaluate the following Boolean expression. 3
- (i) `not a and b`
  - (ii) `not (( not b or not a) and c)`
  - (iii) `(a and b) or not c`
3. (a) Differentiate between Implicit and Explicit type conversion in python. 2
- (b) Write python expression for the following: 2
- (i) 
$$P + \frac{q}{(r + s)^4}$$
  - (ii) 
$$2 - ye^{2y} + 4y$$
- (c) Write a program to find largest number among three numbers. 3
- (d) What are mutable and immutable types? 2
- (e) Given a string **S = "87912"**. Write an expression that gives output value **17**. 2
- $$8 * 2 + 9 - ( 7 + 1 )$$
- (f) What would be the output produced by the following code: 1
- ```
a, b, c = 0.2, 0.3, 0.4
d = 0.9
e = a + b + c - d
f = a + b + c == d
print(e)
print(f)
```
4. (a) Write a program to print a given character is Upper case or Lower case or a Digit. 2
- (b) Under what condition will the code fragment print **"Water"** 1
- ```
if (tem < 32):
    print("Ice"):
elif (tem < 212):
    print("Water")
else:
    print("Steam")
```
- (c) Write a program to print the following pattern: 3
- ```
1
1 3
1 3 5
1 3 5 7
```
- (d) Consider the following program: 2
- ```
N = int(input("Enter N"))
I = 1
Sum = 0
while I<N:
    if( I%2 == 0):
        Sum = Sum + I
    I = I + 1
print(Sum)
```

- (i) What is the output when the input value is 5?  
 (ii) What is the output when the input value is 0?
- (e) Evaluate the following expression: 3
- (i)  $50 / (5 - (3 + 2))$  or  $3 < 5$   
 (ii)  $2 * (2 * (\text{len}("01")))$   
 (iii)  $(3 \% 4 == 0)$  and  $(500 \% 100 != 0)$

[45 Marks]

**SECTION - B**

5. (a) Define a bit. 1  
 (b) What are RAM and ROM? Explain PROM, EPROM and EEPROM. 3  
 (c) Draw the block diagram of Mobile Organization. 2  
 (d) Discuss the role of Utility Softwares in computer. Explain any two. 2  
 (e) Write the latest version of Android operating system. 1
6. (a) Convert the following Hexa Dec in to Decimal. 2
- (i) **2C9**  
 (ii) **EB41**
- (b) Convert the following Octal in to Binary. 2
- (i) **7642**  
 (ii) **3576**
- (c) Add following Binary numbers. 2
- (i) **1110.110** and **11010.011**  
 (ii) **110101** and **101111**
- (d) Write short note on ASCII. 2
7. (a) State and verify Absorption Law in Boolean Algebra. 2  
 (b) Draw the logic circuit diagram for the following Boolean expression.  $Y = a.b + \bar{b}.c + \bar{c}.\bar{a}$  2  
 (c) Prove algebraically  $XY + \bar{X}Z + YZ = XY + \bar{X}Z$  2  
 (d) Draw the logic circuit diagram for the following using NAND gates only. 2

$$A.B.C + A.\bar{B}.\bar{C} + \bar{A}.B.C$$

[25 Marks]

