



**INDIAN SCHOOL SOHAR**  
**TERM I EXAMINATION (2019-20)**  
**COMPUTER SCIENCE**

**CLASS:XI**  
**DATE:01/10/2019**

**MAX. MARKS: 70**  
**DURATION: 3HRS**

**Instructions:**

- a. All the questions are compulsory.**  
**b. Answer the questions after carefully reading the text.**

**1. Answer the following questions:**

- a. Write the forward and backward index numbers of 'i' in string "practices". 1
- b. What are advantages of Python programming language? 2
- c. What are comments? Which character is used for single line comment? 2
- d. Which among the following are valid identifiers? 2  
 Roll#No, Var1, None, True, 41stno, \_v1, No\_2, false
- e. What is pseudocode? How is it useful in developing logic for the solution of a problem? 2
- f. Explain string slice using suitable examples. 2
- g. Evaluate: 2  
 i)  $2//3+5*2**2-len("program's")$     ii)  $22/7 - int(22\%7)$

**2.**

- a.  $1024_{10} = 1 \text{ _____}_2$  1
- b. What are the advantages of parallel computing? 2
- c. What is SoC? How it is different from CPU? 2
- d. Differentiate between interpreter and compiler. 2
- e. Draw a circuit diagram for the following function  $F(X,Y,Z)=(X'+Y)(Y'+Z)$  2
- f. i) State DeMorgan's Theorem (any one). 1  
 ii) Prove the above theorem algebraically. 2
- g. Convert the following: 2  
 i)  $(7AB4)_{16}$  to  $( \quad )_8$     ii)  $(1010.0101)_2$  to  $( \quad )_{10}$   
 iii)  $(235)_{10}$  to  $( \quad )_{16}$     iv)  $(715)_8$  to  $( \quad )_2$
- h. Add the following binary numbers: 2  
 i) 10110111 and 11000101    ii) 1010.110 and 11011.001

**3.**

- a. Define Foreign key. 1
- b. What is the role of Unique constraint? How is Primary key constraint different from unique constraint? 2
- c. Compare Char and Varchar datatypes. 2

4.

a. Write the equivalent python expression for the following: 2

i)  $|a - b| + 2a$       ii)  $S = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$

iii)  $2e^{3x} - e^x$       iv)  $A = \frac{1}{3}\pi r^2 h$

b. Evaluate and justify: 2

i) True and 1==1 or not False or 3==3 and False or 0!=1

ii) 1 or 's' and not(False) or None

c. Predict the output after execution of the following code: 2

i) `x=20`

`x -=5`

`x,y=x+1,x+2`

`print(x,y,sep=",")`

`x,y=x-5,10`

`print(x,y,sep=",")`

ii) `i=1` 2

`while i<4:`

`print(i%2,"t",i)`

`i+=2`

d. Rewrite the following code using 'for' loop: 2

`x=10`

`while x>0:`

`print(x)`

`x -=2`

e. Find the errors from the following code segment and rewrite the corrected code: 2

i) `a=input("enter value of a")`

`c+=a`

`print(C)`

`print("the value of a is',a))`

ii) `if i=1` 2

`print("value is one")`

`elif: i>1`

`print("values more than 1")`

`else: i<1`

`print("zero/negative values")`

- f. Write a program in python to print the factorial of a given number. 2
- g. Write a program that reads a string and check whether it is a palindrome string or not. 2
- h. An online shopping company accepts its bill payments in 3 modes –Cash, Cheque and Credit card. A discount is given based on the mode of payment. The discount is given as per the following table:

Mode of Payment	Discount
Cash	8% of bill
Cheque	5% of bill
Credit Card	Nil

- i) The user should input the bill amount and mode of payment 1
- ii) Calculate and display the discounted amount as per the given criteria. 2
- iii) Calculate and display the Net Amount. (Net Amount=Bill Amount- Discount) 1
- i. Write a program to print the sum of the following series for n terms: 2
- $$1 + \frac{1}{4} + \frac{1}{9} + \frac{1}{16} + \frac{1}{25} + \dots$$
- j. Draw a flow chart to check whether a number is even or odd. 2

## 5.

- a. Create a table member based on the structure given below: 2

**Member:** Table structure

Column name	Data Type	Constraint
Empid	integer(4)	Primary key
Name	Varchar(15)	
Pay	Integer(6)	
Divno	Integer(3)	
DOJ	Date	

**Member:** Table

Empid	Name	Pay	Divno	DOJ
101	Mohit	34000	10	2018-01-12
102	Sagar	32000	40	2018-12-10
103	Sujith	45000	20	2014-01-26
104	Revant	38000	30	
105	Tinu	50000	20	2010-03-29

**Division:**Table

Divno	Divname	Location
10	Media	TF02
20	Dance	FF02
30	Production	SF01
40	Camera	

- b. Write SQL Commands for the following on the basis of information given below:
- i) Insert a new row with values: 107, Kushal, 2019-03-23. 1
  - ii) Show the details of employees from dance or camera division with payment less than 40000. 1
  - iii) List the details of members whose location is mentioned and joined before 2<sup>nd</sup> June 2015. 1
  - iv) List the employee id, payment and location of all employees whose payment is in range 35000 to 50000 in descending order of payment and ascending order of division number. 1
  - v) Display a report as:<name>is charging RO <5% of payment>as bonus every year. 1
- c. Write the output of the following queries: 1
- i) Select  $2/2+5*5+5\%3-5$  as calculatedvalue;
- d. Remove the errors (if any) from the following queries and rewrite the corrected ones.
- i)Select \* from member where name like 'a%' or 'r%' ; 1
  - ii)Drop from table division; 1

\*\*\*\*The End\*\*\*\*