



INDIAN SCHOOL SOHAR
FINAL EXAMINATION (2019-20)
COMPUTER SCIENCE

CLASS: XI

MAX. MARKS: 70

DATE: 18/02/2020

DURATION: 3HRS

Instructions:

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

1. Answer the following questions:

- a. What is the difference between (30) and (30,)? 1
- b. What is an Exception? 1
- c. Differentiate between Syntax and Semantics errors. 2
- d. What is a flowchart? How is it useful? 2
- e. Differentiate between append and extend in list. 2
- f. In which situation, would you prefer bubble sort over insertion sort? 1
- g. What is the length of the tuple shown below? 1
 $t = (((('a', 1), 'b', 'c'), 'd', 2), 'e', 3)$
- h. What will the following code result in? 1
 $L1 = [1, 3, 5, 7, 9]$
 $print(L1 == L1.reverse())$
 $print(L1)$
- i. Write the equivalent python expression: 1
 i) $P + \frac{q}{(r+s)^4}$ ii) $2 - ye^{2y} + 4y$

2.

- a. What is an Inverter? 1
- b. What is cloud computing? 1
- c. Convert the following: 1
 i) $(674.34)_{10}$ to $()_{16}$ ii) $(7643)_8$ to $()_2$
- d. What are the various categories of software? 2
- e. Describe the role of OS as a resource manager. 2
- f. Draw the AND-OR circuit for: $y = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}B\bar{C}\bar{D} + ABCD$ 2
- g. Add the following binary numbers: 1
 i) 101010 and 111111 ii) 100001.101 and 110101.101

3.

- a. Predict the output after execution of the following code: 2
- i)

```
d1={5:"number","a":"string",(1,2):"tuple"}
print("Dictionary contents")
print(" ----- ")
for x in d1.keys():
    print(x,":",d1[x]*2)
```
- ii)

```
x,y,sum=1,5,10
for i in range(1,y+1,2):
    sum+=x
    x=x+1
print(sum)
```

2
- b. Rewrite the following code using 'while' loop: 2
- ```
x=3
for y in range(0,10):
 if x==y:
 print(y+x)
 else:
 print(y)
```
- c. Find the errors from the following code segment and rewrite the corrected code: 2
- i) 

```
T= tuple([92,53,76,11])
X=T+(2)
maxval=Max(T)
print("maximum value is" maxval)
```
- ii) 

```
Str='#'
Pattern=""
a=0
While a<5:
 Pattern+=Str
 print(pattern)
 a+=1
```

2
- d. Write a program in python to get a number below 1000 from user and reverse the number. 2
- e. Draw the state-transition diagram for game of chess. 2
- f. Write the algorithm to sort a list of elements using bubble sort. 2

- g. Write a python script to calculate the mean of a given list of numbers. 2
- h. Write a program in Python that accepts test to be done , consultation fee of a patient and calculate the final bill amount based on the test conducted:

| Test  | Charge |
|-------|--------|
| Blood | 250    |
| Urine | 150    |
| ECG   | 300    |
| Scan  | 500    |

- i) The user should input the test name and consultation fee 1
- ii) Calculate and display the Bill amount as per the given criteria. 2  
(Bill amount=Consultation fee + Test charge)
- i. Write a program to print the sum of the following series for n number of terms: 2

$$\frac{1}{4} + \frac{1}{9} + \frac{1}{16} + \dots\dots\dots$$

**4.**

- a. Write any two advantages of database. 1
- b. What are different categories of NoSQL database? 2
- c. Create a table Stock based on the structure given below: 2

**Stock:** Table structure

| Column name | Data Type   | Constraint  |
|-------------|-------------|-------------|
| Id          | Integer(4)  | Primary key |
| Name        | Varchar(15) | Not null    |
| Company     | Varchar(20) |             |
| Price       | Integer(4)  |             |

**Stoke:** Table

| Id  | Name      | Company       | Price |
|-----|-----------|---------------|-------|
| 101 | Maggi     | Nestle        | 40    |
| 102 | Cake      | Elite         | 75    |
| 103 | Biscuit   | Hide and Seek | 25    |
| 104 | Ketchup   | Nestle        |       |
| 105 | Chocolate | Cadbury       | 30    |

**Supplier: Table**

| Sno | Id  | Qty | City    |
|-----|-----|-----|---------|
| 001 | 102 | 200 | Mumbai  |
| 002 | 105 | 150 | Delhi   |
| 003 | 101 | 100 | Kolkata |
| 004 | 105 | 50  | Delhi   |

d. Write SQL Commands for the following:

- i) Insert a new row with the following values into the Stock table:106, Jam, Kissan 1
- ii) List the company and price of items supplied from Mumbai in descending order of price. 1
- iii) List the various city names of products whose price is mentioned 1
- iv) List the id, name and price of biscuits whose quantity is not in range 100 to 150. 1
- v) Display the city of items whose name starts with 'C' or 'K' with quantity less than 100. 1
- vi) List the supplier no, company and city of all products from Mumbai and Delhi. 1
- vii) List the details of stock in ascending order of price and descending order of city. 1

e. Create a database "Product" in MongoDB having a collection "Items" and insert the following data in it: 1

- name: Refrigerator,manufacturer:Whirlpool,price:75000

f. Write query to display the details of Refrigerators. 1

g. Change the price of refrigerator to 80000 1

**5.**

- a. What is private browsing? 1
- b. What is antivirus software? 1
- c. Write any two damages caused by Adware. 2
- d. What is Cyber safety? Why is it so important? 2
- e. Write any two protective methods from Pharming. 2
- f. What is Spam? Why has it become a big internet issue? 2

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