

PRE-BOARD EXAMINATION – I (NOVEMBER – 2019)**CLASS: XII****COMPUTER SCIENCE****Time: 3 hrs.****MAX. MARKS : 70****General Instructions:**

- *All questions are compulsory.*
- *Question paper is divided into 4 sections A, B, C and D.*
 - *Section A : Unit-1*
 - *Section B : Unit-2*
 - *Section C: Unit-3*
 - *Section D: Unit-4*

SECTION-A

- Q1. a. What is the output when following statement is executed? 1
- ```
>>> "a" + "bc"
```
- a) a      b) bc      c) bca      d) abc
- b. Suppose list1 is [2, 33, 222, 14, 25], What is list1 [-1]? 1
- a) Error    b) None    c) 25      d) 2
- c. Name the Python Library modules which need to be imported to invoke the following functions: 1
- (i) path ( )    (ii) pow ( )
- d. Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. 2
- ```
DEF execmain():  
    x = input ("Enter a number:")  
    if (pow (x,1) = x * x):  
        print "You entered a Correct number"  
    else:  
        x=*-1  
        print "Number is wrong : " x
```

```
execmain()
```

- e. Find and write the output of the following python code:

2

```
def main ( ) :  
    Moves = [11, 22, 33, 44]  
    Queen = Moves  
    Moves[2] += 33  
    L = len(Moves)  
    for i in range (L):  
        print ('Now@', Queen[L-i-1], '#', Moves [i])  
main()
```

- f. Find and write the output of the following python code:

3

a. Fruit = { }

```
L = ['Orange', 'Apple', 'Grapes']  
for index in L:  
    if index in Fruit:  
        Fruit [index] += 1  
    else:  
        Fruit[index] = 1  
print (len(Fruit))  
print (Fruit)
```

b. list = ['p','r','o','b','l','e','m']

```
list[1:3] = [ ]  
print(list)  
list[2:5] = [ ]  
print(list)
```

- g. What are the possible outcome(s) executed from the following code? Also specify the maximum and minimum values that can be assigned to variable N.

```
import random  
NAV = ["LEFT","FRONT","RIGHT","BACK"]  
NUM = random.randint(1,3)  
NAVG = ""  
for C in range (NUM, 1, -1):
```

```
NAVG = NAVG + NAV[C]
print (NAVG)
```

- (i) BACKRIGHT (ii) BACKRIGHTFRONT
(iii) BACK (iv) LEFTFRONTRIGHT

- Q2. a. How are list different from strings when both are sequences? 1
- b. What is the difference between **del** and **pop** statement in dictionary? 1
- c. What is the output of the following code : 1

```
L = ['ab', 'bc', 'cd', 'de']
print (''.join(L) )
```

(a) None (b) abbccdde (c) ['ab', 'bc', 'cd', 'de'] (d) Error
- d. What will be the output of the following code? 1

```
dic = {'School' : 'SIS', 'Place' : 'Doha' }
d = dic.copy( )
print(id(d) == id(dic))
```

(a) True (b) False (c) 0 (d) 1
- e. What will be the output of the following code? 1

```
list1=[13,18,11,16,13,18,13]
list1.append(list1.count(13))
print(list1)
```

(a) 3 (b) [3, 13, 18, 11, 16, 13, 18, 13] (c) Error (d) [13, 18, 11, 16, 13, 18, 13, 3]
- f. Find and write the output of the following python code: 2

```
num=25
def convert():
    global num
    num=35
num1=20
```

```
print(num)
convert()
```

- g. Give the output from the given python code: 2

```
import matplotlib.pyplot as plt
import numpy as np
mobile = ('Samsung', 'Huawei', 'i-Phone', 'Redmi', 'LG', 'Sony')
y_pos = np.arange(len(mobile))
sale = [9236, 2217, 9390, 4663, 4077, 3712]
plt.bar(y_pos, sale, align='center')
plt.xticks(y_pos, mobile)
plt.xlabel('Month-September - 2019')
plt.ylabel('Sales done')
plt.title('Sales Report')
plt.show()
```

OR

Write a Python Code to create a Pie Chart for sequence Increased_Percentage = [72, 76, 82, 100] for the Exams 'Monthly', 'Mid Term', 'Half Yearly', 'Annual'.

- Show Annual's value exploded
- Show % for contribution for each exam

- h. Consider a binary file "Stud.dat" containing details such as studno : studname : Average (separator ':'). Write a python function to display the details of those students who are scoring between 80 and 100. 2

OR

A text file "Quotes.Txt" has the following data written in it:

"Instead of worrying about what you cannot control, shift your energy to what you can create."

Write a user defined function to display the total number of words present in the file.

- i. What are base case and recursive case? What is their role in recursive program? Give a suitable example. 3

OR

Write a recursive Python function that returns the sum of the first n integers passed to the parameter.

- j. Write functions to perform insert (Enqueue) and delete (Dequeue) operations in a Queue containing Employee details as given in the following definition of item. 4

Emp No **Integer**, Emp Name **String**, Age **Integer**

OR

Evaluate the following Postfix notation of expression.

15, 3, 2, +, /, 7, +, 2, *

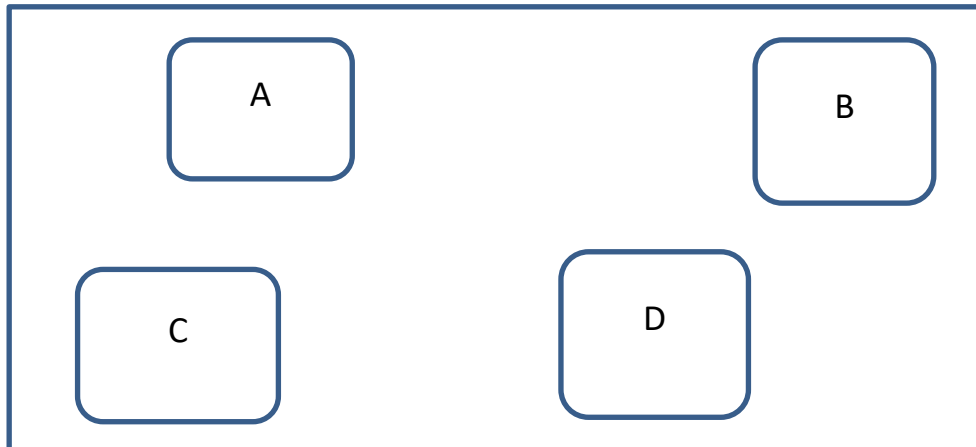
SECTION-B

Q3. Questions 3 (a) to 3 (d) : Fill in the blanks

- a. A _____ is a device that connects dissimilar Networks. 1
- b. A _____ refers to a pre-decided set of rules using all parties of a network connect and interact with one another. 1
- c. A _____ provides the physical connection between the network and the computer workstation. 1
- d. A _____ is a computer that just serves the requests of doing some tasks, made by other computers in its network. 1
- e. **Give the full form of the following:** 2
- i. WAP
 - ii. IoT
 - iii. ISP
 - iv. CSMA
- f. What is *collision* in a network? What measures do wireless networks employ to avoid collisions? 2
- g. Identify the type of **cybercrime** for the following situations. 3
1. A 12-year old girl, took her own life by jumping off a concrete silo after being repeatedly harassed by other teenage girls on social media and by other electronic means.
 2. Naomi breaches people's home computers through the use of emailed viruses, obtaining what personal information she can find, such as passwords into retail accounts. One day she obtains Patty's password to his Amazon account, and is able to log in and view the personal identifying information in his account settings, as well as the credit card he has used to make purchases. Armed with this information, including Patty's date of birth and social security number, Naomi is able to obtain brand new credit cards, and possibly even a driver's license with her own photo.

3. Felicia posts her resume on GoWork.com, an online job-posting site, seeking a position in business and managerial finance and accounting. Hayden, who misrepresents himself as an employment officer with International Bank & Commerce Corp., sends her an e-mail asking for more personal information.

- h. An Organization has its offices in building A, B, C and D. Answer questions (a) to (d) in context of the following layout of the three offices: 4



Centre to Centre distances between different buildings are as follows:

| | |
|--------------------|-------|
| BLOCK A TO BLOCK B | 100 m |
| BLOCK A TO BLOCK C | 70 m |
| BLOCK A TO BLOCK D | 20 m |
| BLOCK B TO BLOCK C | 150 m |
| BLOCK B TO BLOCK D | 120 m |
| BLOCK C TO BLOCK D | 140 m |

Each of the above buildings has following number of computers

| | |
|---------|----|
| BLOCK A | 65 |
| BLOCK B | 30 |
| BLOCK C | 25 |
| BLOCK D | 40 |

(i) Suggest and draw the layout for a network, with proper justification to connect all the office.

(ii) Where would the following preferably be placed

- Hub/Switch

- Repeater

(iii) Suggest the most suitable place to house the server for the organization with proper justification.

(iv) If the organization needs to link up to a branch office which is in a neighboring city, (around 100 km distant) suggest the best type of cabling connection, from the building hosting the server, provided price is not a factor.

SECTION-C

- Q4.a. The statement in SQL which allows to change the definition of a table is 1
 (a) Alter (b) Update (c) Create (d) select.
- b. Key to represent relationship between tables is called 1
 (a) Primary key (b) Secondary Key (c) Foreign Key (d) None of these
- c. Which command is used to modify the records of the table? 1
- d. Write the two wildcard characters can be used in SQL. 1
- e. Differentiate between **WHERE** and **HAVING** clause. 2

OR

What is the significance of **connect()** and **execute()**?

- f. Mention the architecture of **Django**. 2
- g. Write SQL command for (a) and (b) on the basis of the table GRADUATE. 3

TABLE : GRADUATE

| S.NO | NAME | STIPEND | SUBJECT | AVERAGE | DIV. |
|------|---------|---------|-----------|---------|------|
| 1 | KARAN | 400 | PHYSICS | 68 | I |
| 2 | DIWAKAR | 450 | COMP. Sc. | 68 | I |
| 3 | DIVYA | 300 | CHEMISTRY | 62 | I |
| 4 | REKHA | 350 | PHYSICS | 63 | I |
| 5 | ARJUN | 500 | MATHS | 70 | I |
| 6 | SABINA | 400 | CHEMISTRY | 55 | II |
| 7 | JOHN | 250 | PHYSICS | 64 | I |
| 8 | ROBERT | 450 | MATHS | 68 | I |

| | | | | | |
|----|--------|-----|-----------|----|----|
| 9 | RUBINA | 500 | COMP. Sc. | 62 | I |
| 10 | VIKAS | 400 | MATHS | 57 | II |

- (a) List the names of those students who have obtained **DIV as I** sorted by NAME.
- (b) Display a report, listing NAME, STIPEND, SUBJECT and amount of stipend received in a year assuming that the STIPEND is paid every month.
- (c) **Write the output of the following query:**

SELECT NAME FROM GRADUATE WHERE SUBJECT= 'COMP. Sc.';

- h. Write SQL queries to perform the following based on the table PRODUCT having fields as (prod_id, prod_name, quantity, unit_rate, price, city). 4
- Display those records from table PRODUCT where prod_id is more than 100.
 - List records from table PRODUCT where prod_name is 'Almirah'
 - Display the product names whose price is less than the average of price.
 - Show the total number of records in the table PRODUCT.

SECTION-D

- Q5. a. What do you understand by *Biometric Authentication*? 1
- b. List any two key benefits of *e - Waste Recycling*. 1
- c. What is *Computer Forensics*? Write the important practices of Computer Forensics. 2
- d. Consider the following scenario. 2

When Rao's uncle open an email he saw a message like this:

Our records indicate that your account was overcharged. You must call us or reply to the attached link within 7 days to receive your refund.

Identify the cybercrime and explain how to deal with scam.

- e. Describe the terms *free software* and *open source software*. Write examples of one *Proprietary software* and one *OSS software*. 2
- f. What factors contribute to low success rates among people with disabilities in various professions? 2

