INDIAN SCHOOL MUSCAT
ANNUAL EXAMINATION
INFORMATICS PRACTICES

CLASS: XI   Sub. Code: 065   Time Allotted: 3 Hrs.

16.02.2020   Max. Marks: 70

General Instructions:

- Answer all Questions.
- Answer all subdivisions of a question before attempting the next.
- Programming Language is Python.

1.

(a)   Expand : ASCII   1

(b)   Give any two methods to trouble shoot the following problem in your computer – No   2
        Sound / Speaker Problem

(c)   State any four reasons to prove that computers are better than calculators.   2

2.

(a)   John has written the following Python code.   1

```
Name = "John"
Age = 12
print(Name, 'is')   # Line 3
print(Age, "years old")
```

He wants to get the output as
        John is 12 years old

But he did not get the expected output. Correct Line 3 of the above code to get his
expected output. Do not make any modifications in other lines of the code.

(b)   What is the difference between a keyword and an identifier ?   1

(c)   Draw a flowchart to accept the age of a person and display if he is eligible to vote or not.   2

(d)   Write a Python code to display a random number in the range 10 to 50.   2

(e)   Predict the output: 2
        a, b, c = 2, 3, 4
        a, c, b, d = a*a, a*b, a*c, b*b
        print(a, b, c, d)

(f) Find the length of the following String literals.   2

       (i)   '''This is
             interesting'''
       (ii)   "Keshav\\"
       (iii)   'Door#23'
       (iv)   "It is quite\
             cold"

3.

(a) What do you mean by the term 'mutable'? Name a mutable datatype in Python.   1

(b) Given three Boolean variables a, b, c as a=True, b=False and c=True. Evaluate the   2
following Boolean expressions:
    (i)   b and c or not a   (ii) not a and not c

(c) Rewrite the following code fragment that saves on the number of comparisons :

```
if a==0 :
    print("Zero")
if a==1 :
    print("One")
if a==2 :
    print("Two")
if a==3 :
    print("Three")
```
     2

(d) Write following expressions in Python: 2
    (i) $a^{-n} = \frac{1}{a^n}$ (ii) $d = \sqrt{a^2 + b^2}$

(e) Write a Python Program to check if a given integer is a Prime number or not.   3

4.

(a) Identify the values in the following dictionary :   1
D = {5 : "Class 5", 11 ; "Class 11"}

(b) Carefully go through the code given below and answer the questions based on it :   2
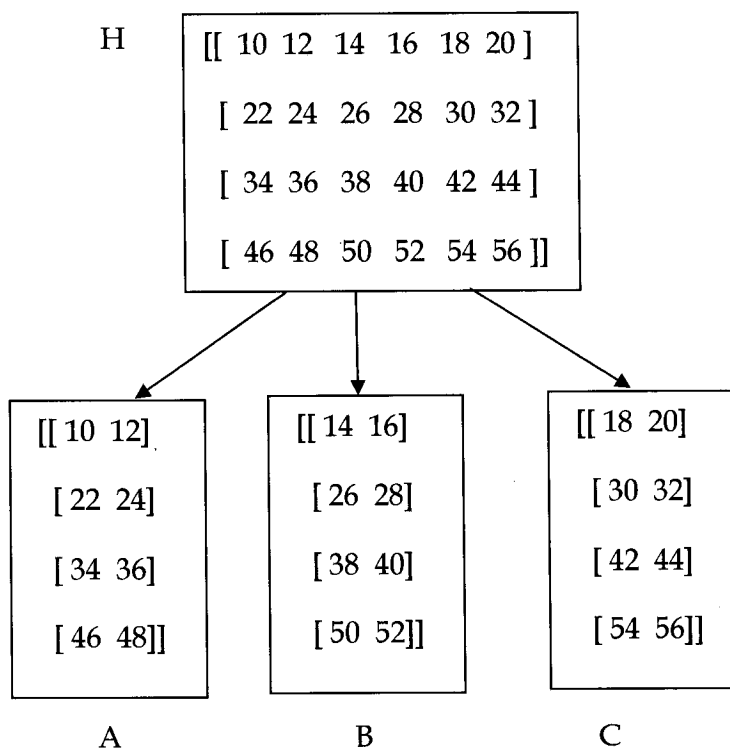
```
Teststr = "abcdefghi"
Inputstr = input("Enter integer")
Inputint = int(Inputstr)
count=2
newstr = ''
while count <= Inputint :
    newstr = newstr + Teststr[0 : count]
    Teststr = Teststr[2 :]          # Line 1
    count = count + 1
print(newstr)                       # Line 2
print(Teststr)                      # Line 3
print(count)                        # Line 4
print(Inputint)                     # Line 5
```

       (i)   Given the input integer 4, what output is produced by Line 3 ?
           (a) abcdefg   (b) ghi   (c) abcdeefgh   (d) None of these

(ii) For input integer 3, what output is produced by Line 5 ?
  (a) 0   (b) 1   (c) 2   (d) 3

(c) Write a Python Program to find the largest number in a list given by the user.   3

(d) Given a list P = [13, 2.7, 18, 7.1, 5, 36.4, 62, 18]   4
  (i) Which list slice will return [17.1, 5, 36.4] ?
  (ii) What is the output of P.index(2.7) ?
  (iii) Write Python code to add 78 as second element to the list P.
  (iv) Write Python code to delete 7.1 from the list P.

5.
(a) Write a Python code to create a 3x4 ndarray P with values ranging from 21 to 32.   1

(b) Give any two differences between a list and a numpy array.   1

(c) Predict the output :   2
```
import numpy as np
T=np.array([[54,55,26], [28,57,41]])
R=np.array([[21,51,69],[67,91,89]])
E=R[:1,1]
print(E)
W=np.sort(T)
print(W)
```

(d) Write a Python code to split the following array H as depicted below. Give any two ways   2
to get the resultant   arrays.

```
H     [[ 10 12 14 16 18 20 ]

       [ 22 24 26 28 30 32 ]

       [ 34 36 38 40 42 44 ]

       [ 46 48 50 52 54 56 ]]
```

```
[[ 10 12]        [[ 14 16]        [[ 18 20]

 [ 22 24]         [ 26 28]         [ 30 32]

 [ 34 36]         [ 38 40]         [ 42 44]

 [ 46 48]]        [ 50 52]]        [ 54 56]]
```
         A   B   C

(e) Write a Python Program to create two ndarrays X = [[23,4],[17,8]] and Y = [[31,22],[45,46]]   2
and display the sum of X and Y. Also print the least number in Y.

(f) Write a Python Program to create an ndaray K = [[34, 56, 12], [11, 90, 87]] and display the elements lesser than 82. 2

6.

(a) Name the Data type in MySQL that should be used to store name of employees like "RANJAN" in a table. 1

(b) Explain Candidate key of a table with an example. 2

(c) Write SQL Commands for (i) to (viii) on the basis of the table SPORTS. 8

Table : SPORTS

S_ID	NAME	CLASS	GAME	GRADE
143	Sameer	7	Cricket	A
127	Sujit	8	Tennis	C
139	Kamal	7	Swimming	B
124	Archana	9	Basketball	A
155	Veena	6	Tennis	B

(i) Display the names of the students playing Tennis.

(ii) Change the grade of the student with ID 124 to B.

(iii) Display the names of the students from classes 6 to 8. (inclusive)

(iv) Display NAME, CLASS and GAME in descending order of their class.

(v) Display the names of the students whose name starts with 'S'.

(vi) Display the id of the students who got grades B and C in their games.

(vii) Remove the field CLASS from the table.

(viii) Remove the records of the students in 'Swimming' sports.

(d) Give the output of the following SQL commands on the basis of the above table SPORTS: 4

    i.   SELECT NAME FROM SPORTS WHERE GAME LIKE '_a%';
    ii.   SELECT SUM(S_ID) FROM SPORTS WHERE CLASS=7;
    iii.   SELECT COUNT(DISTINCT CLASS) FROM SPORTS;
    iv.   SELECT MAX(S_ID) FROM SPORTS;

7.

(a) Name any two ways of Private Browsing. 1

(b) What is meant by Spamming? 1

(c) State any two measures one should take to maintain confidentiality of personal information. 2

(d) Define : (i) Digital footprints   (ii) Firewall.   2

(e) List any two Preventive measures for Phishing and Pharming attack on a Computer   2
     System.

(f) Kavitha has recently shifted to a new city and she does not many people in the new city.   2
     But all of a sudden, she is getting negative, demeaning comments on her social
     networking profile. She is also getting repeated mails from unknown people. Every time
     she goes online, she finds someone chasing her online.
     (i)   What is this known as?
     (ii)   What action should she take to stop them?

End of the Question Paper