INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

INFORMATICS PRACTICES

Subject Code: 065

ANSWER KEY

CLASS: XII Time Allotted: 50mts

DATE : 19.04.2022 Max .Marks: 20

GENERAL INSTRUCTIONS:

1.Read the Questions carefully and write the Answers

2. All the Questions are compulsory

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1. Write any Two purpose of Data. 1
   Data can be defined as a systematic record of a particular quantity.
2. Define Data Processing Cycle. 1
   Sequences of steps or processing for Data.
3. Write the full form of NumPy and any one use. 1
   Numeric Python or Numerical Python. Create and process single and multi-dimensional array
4. Define 1D array in NumPy. 1
   One dimensional array **contains elements only in one dimension**. In other words, the shape of the numpy array should contain only one value in the tuple. To create a one dimensional array in Numpy, you can use either of the array(), arange() or linspace() numpy functions.
5. What is the use arange( ) in NumPY? Explain with an example. 2

   The arange() function in numpy is same as range() function in Pyt
   The following format is used to create an array using the ara
   function.

   any valid example 1 mark
6. Write a simple code to create an array with five zero values. 1
   I mport numpy as np
   A=np.zeros(5)
   Print(A)
7. Find the output of the following: 2
   import numpy as ap
   a=ap.array([24,67,89,45,32])
   print(a)
   print(a*3) 72,201, 267,135,96 -2 marks

8. Find the output of the following: 2

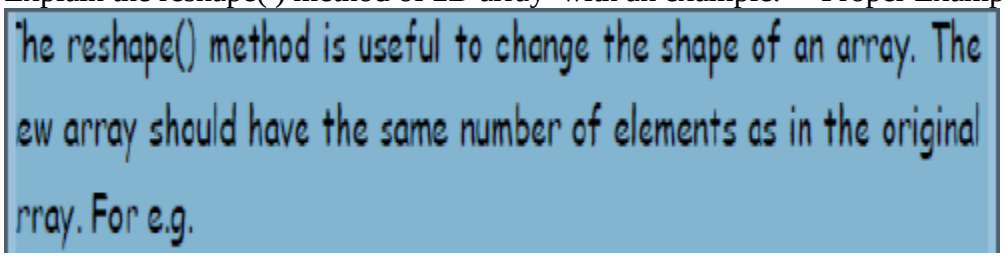
```
import numpy as np
a=np.array([10,20,30,40,50,60])
b=a
a[1]=70
print(a)
print(b)
```

- correct out put 1+1 2 marks

9. Define shape attribute of 2D array. 1

The 'shape' attribute gives the shape of an array. The shape is t listing the number of elements along each dimension. A dimensi called an axis. For one dimensional array it will display a single value for two-dimensional array it will display two values separate commas represent rows and columns.

10. Explain the reshape( ) method of 2D array with an example. Proper Example 1 mark 2



1 mark

11. Find the output of the following:

```
import numpy as np
a=np.array([20,30,40,45,65,79,91]
print(a[: :2])
```

1

```
print(a[-4:-2])
```

1

[20 40 65 91] 1 mark

[45 65] 1 mark

12. Define eye( ) with an example. Explantion ½ mark example : ½ mark 1

The eye() function creates a 2D array and fills the elements in the diagonal with 1s.

Syntax-eye(n, dtype=datatype)

13. What is the use of hstack() ?Explain. explanation 1mark 1

hstack() – It is used to join more than one array horizontally or row wise.

e.g.-

```
import numpy as np
a=np.array([1,2,3])
b=np.array([10,11,12])
c=np.hstack((a,b))
print (c)
```

Output-

```
[1  2  3 10 11 12]
```

14. Define vsplit( ) with an example. 1

It is used to provide the subsets of an array after splitting it vertically.

Proper Example 1 mark

15. Write a python code to create the following array 1

[[20 30 40]
 [45 65 79]]

Using the correct command 1 mark

16. Define ndim attribute of 2D array. Proper explanation 1 mark 1

ndim attribute is used to represent the number of dimensions of of the array. The number of dimensions is also known as 'rank'. following example demonstrate the use of the ndim attribute

```
import numpy as np

A = np.array([5,6,7,8])

R = np.array([[4,5,6],[7,8,9]])

print(A.ndim)  ⟶  Number of rows in array A

print(R.ndim)  ⟶  Number of rows in array R
```