NumPy Test

All questions contains same marks (2) Total Marks = 100

Q1. NumPY Stands for ?

A) Numerical Python

B) Number In Python

C) Numbering Python

D) None of the above

Q2. What is a correct syntax to create a NumPy array ?

A) np.object([1, 2, 3, 4, 5])

B) np.array([1, 2, 3, 4, 5])

C) np.createArray([1, 2, 3, 4, 5])

D) None of the above

Q3. Which of the following arrays is a two dimensional (2-D) array ?

A) [[1, 2, 3], [4, 5, 6]]

B) [1, 2, 3, 4, 5]

C) [[[1, 2, 3, 4, 5]]]

D) 45

Q4. What is a correct syntax to check the number of dimensions in an array ?

A) arr.dim()

B) arr.ndim

C) arr.ndim()

D) arr.dim

Q5. What is correct syntax to print the first item of an array ?

A) print(myArr, 1)

B) print(myArr[0])

C) print(myArr[1])

D) None of Above

Q6. What is correct syntax to print the number 8 from the array below

```
arr = np.array([[1, 2, 3, 4, 5], [6, 7, 8, 9, 10]])
```

A) print(arr[7, 2])

B) print(arr[1, 2])

C) print(arr[2, 3])

D) print(arr[1, 3])

Q7. What is correct syntax to print the number [3, 4, 5] from the array below:

```
arr = np.array([1, 2, 3, 4, 5, 6, 7])
```

A) print(arr[2:6])

B) print(arr[2:5])

C) print(arr[2:4])

D) print(arr[3:6])

Q8. Which syntax would print the last 4 numbers from the array below

```
arr = np.array([1, 2, 3, 4, 5, 6, 7])
```

A) print(arr[3:])

B) print(arr[4])

C) print(arr[4:])

D) print(arr[:4])

Q9. Which syntax would print every other item from the array below

arr = np.array([1, 2, 3, 4, 5, 6, 7])

A) print(arr[0:6:2])

B) print(arr[::2])

C) print(arr[1:3:5:7])

D) print(arr[1::2])

Q10. What is a correct syntax to check the data type of an array ?

A) arr.dtype

B) arr.datatype

C) arr.type

D) print(type(arr))

Q11. What is a correct syntax to create an array of type float ?

A) arr = np.float([1, 2, 3, 4])

B) arr = np.array([1, 2, 3, 4]).toFloat()

C) arr = np.array([1, 2, 3, 4], dtype=np.float)

D) arr = np.array([1, 2, 3, 4], type=float)

Q12. Only one of the following statements is true when it comes to Views in NumPy, which one ?

A) The view SHOULD NOT be affected by the changes made to the original array.

B) The view SHOULD BE Affected by the changes made to the original array.

C) Changes Made to View Will not Reflect to Original Array

D) Views are Deep Copy of Original Array

Q13. Only one of the following statemets is true when it comes to Copies in NumPy which one ?

A) The copy SHOULD be affected by the changes made to the original array.

B) Original Array SHOULD be affected by Changes Made to the Copy.

C) The copy SHOULD NOT be affected by the changes made to the original array.

D) Copy is just SHALLOW COPY of Original Array

Q14. In Numpy, what does the SHAPE of an array mean ?

A) The shape is the number of columns.

B) The shape is the number of rows.

C) The shape is the number of elements in each dimensions.

D) None of the Above

Q15. What is a correct syntax to return the shape of an array ?

A) arr.shape

B) arr.shape()

C) shape(arr)

D) arr.ndim

Q16. What is a correct method to join two or more arrays ?

A) Concatenate()

B) array_join()

C) Join()

D) None of the Above

Q17. What is a correct method to split arrays ?

A) array_split()

B) vstack()

C) hstack()

D) All the other 3 answeres are correct

Q18. What is a correct method to search for a certain value in an array ?

A) where()

B) search()

C) find()

D) None of the Above

Q19. What is a correct syntax to return the index of all items that has the value 4 from the array below ?

```
arr = np.array([1, 4, 3, 4, 5, 4, 4])
```

A) np.where(arr==4)

B) np.search(4)

C) arr.find(4)

D) arr[arr==4]

Q19. What is a correct method to sort the elements of an array ?

A) orderby()

B) order()

C) sort()

D) argsort()

Q20. When using the NumPy random module, how can you return a random number from 0 to 100 ?

A) np.random.randint(100)

B) np.random.rand(100)

C) np.random.rand(100)

D) np.random.randint(0, 100, 2)

Q21. When using the NumPy random module, how can you return a Normal Data Distribution with 1000 numbers, concentrated around the number 50, with a standard deviation of 0.2 ?

A) random.normal(size=1000, normal=50, s=0.1)

B) random.normal(size=1000, loc=50, scale=0.2)

C) random.normal(size=1000, mean=50, std=0.2)

D) random.normal(50, 20, 1000)

Q22. What is a correct syntax to mathematically add the numbers of arr1 to the numbers of arr2 ?

A) sum(arr1, arr2)

B) np.add(arr1, arr2)

C) np.append(arr1, arr2)

D) np.sum((arr1, arr2))

Q23. What is a correct syntax to subtract the numbers from arr1 with the numbers from arr2 ?

A) np.min(arr1, arr2)

B) np.minus(arr1, arr2)

C) np.sub(arr1, arr2)

D) np.subtract(arr1, arr2)

Q24. What is a correct method to round decimals in NumPY ?

A) All the other 3 are rounding methods in NumPy

B) np.fix()

C) np.trunc()

D) np.around()

Q25. What would be the answer of this cumulative summation in NumPy ?

```
arr = np.array([1, 2, 3])
print(np.cumsum(arr))
```

A) [6]

B) [1 3 6]

C) [10]

D) [3 6 9]

Q26. Which of the function is a function to create a numpy array ?

A) empty()

B) array()

C) ones()

D) All the above

Q27. What is the output of the below code ?

```
np.arange(2, 8)
```

A) array([2, 3, 4, 5, 6, 7, 8])

B) array([2, 3, 4, 5, 6, 7])

C) array([3, 4, 5, 6, 7])

D) array([3, 4, 5, 6, 7, 8])

Q28. Find the output of the below code.

```
a = np.array([[[1, 2, 3], [4, 5, 6]]])
print(a.ndim)
```

A) 1

B) 2

C) 3

D) (1, 2, 3)

Q29. What does the function itemsize() return ?

A) It returns the size of the array

B) It returns the number of elements in the array

C) It returns the byte size of each element of the array

D) None of the above

Q30. Find the output of the below code

```
arr = np.array([[1, 2, 3], [4, 5, 6]])
print(arr[1, 2])
```

A) 6

B) 5

C) 2

D) Index Error

Q31. What is the ouput of the below code ?

```
np.linspace(1, 5, 5)
```

A) array([1., 2.3333333, 3.66666, 5.])

B) array([1, 2, 3, 4, 5])

C) array([1, 1.8, 2.6, 3.4, 4.2, 5])

D) array([1, 2, 3, 4])

Q32. Which of the following is code gives an error ?

A) a = np.array([(1, 2, 3), (4, 5, 6)]); a[(0, 1)]

B) a = np.array([(1, 2, 3), (4, 5, 6)]); a.reshape(2, 4)

C) a = np.array([(1, 2, 3), (4, 5, 6)]); a[np.arange(1), :]

D) All the above

Q33. What is the output of the below code ?

```
print(np.zeros(5).dtype)
```

A) int8

B) int16

C) uint8

D) float64

Q34. Which of the following is not true about the identity matrix?

A) It is a square matrix

B) It contains 1s in all the diagonals

C) We can create an identity matrix using the identity() function

D) None of the Above

Q35. what is the output of the below code ?

```
np.array([[1, 2, 3], [4, 5, 6]]).ravel()
```

A) array([1, 2, 3, 4, 5, 6])

B) array([4, 5, 6, 1, 2, 3])

C) array([[1, 2, 3, 4, 5, 6])

D) Syntax Error

Q36. Which of the following will give the output as

array([[1, 2, 3, 1, 2, 3], [4, 5, 6, 4, 5, 6]])

A) arr = np.array([[1, 2, 3], [4, 5, 6]]); np.vstack((arr, arr))

B) arr = np.array([[1, 2, 3], [4, 5, 6]]); np.hstack((arr, arr))

C) arr = np.array([[1, 2, 3], [4, 5, 6]]); np.hstack(arr)

D) arr = np.array([[1, 2, 3], [4, 5, 6]]); np.vstack(arr)

Q37. Which of the follwing functions i sused to create an array containing constant value ?

A) constant()

B) same()

C) full()

D) All the above

Q38. Which of the following codes give an error ?

A) a1 = np.array([1, 2, 3]); a2 = np.array([0, 4, 9]); a1.dot(a2)

B) a1 = np.array([1, 2, 3, 3]); a2 = np.array([0, 4, 9]); np.add(a1, a2)

C) a = np.array([[1, 3, 5], [4, 6, 8]]); np.sum(a)

D) All the above

Q39. Which of the following is the correct way to transpose of matrix A ?

A) Trans(A)

B) Transpose(A)

C) A.T

D) A.Transpose

Q40. What is the output of the below code snippet ?

```
import numpy as np
```

```
arr1 = np.array([7,8,9,10])
arr2 = np.array([1,2,3,4])
arr3 = arr1 + arr2
arr3 = arr3*arr1
print (arr3[2])
```

A) 21

B) 108

C) 80

D) 12

Q41. What does the size attribute in numpy use to find ?

A) number of items

B) shape

C) date & time

D) unique items

Q42. What is the output of the below code snippet?

```
import numpy as np
arr = np.array([[4,2,0,5],[1,3,5,7]])
print (arr.size)
```

A) 8

B) 4

C) 2

D) 6

Q43. What method is used for changing the shape of numpy arrays?

A) Shape()

B) change_shape()

C) update_shape()

D) reshape()

Q44. What is the purpose of zero() function ?

A) To create a matrix with the first row and first column as 0

B) To create a matrix with diagonal elements as 0

C) To create a matrix with all elements as 0

D) To return an integer number 0

Q45. What is the output of the below code ?

```
import numpy as np
a = np.array([1, 2, 3, 4])
b = np.array([5, 6, 7])
c = np.array([8, 9, 10, 11, 12])
p, q, r = np.ix_(a, b, c)
print(p)
```

A) [[[1]], [[2]], [[3]], [[4]]]

B) [[[5], [6], [7]]]

C) [[[8, 9, 10, 11, 12]]]

D) [[[1]], [[2]], [[3]], [[4]], [[5]], [[6]], [[7]], [[8]], [[9]], [[10]], [[11]], [[12]]]

Q46. NumPy arrays can be____.

A) Indexed

B) Sliced

C) Iterated

D) All of the mentioned above

Q47. Observe the following code and identify what will be the outcome?

```
import numpy as np

x = np.array([[0, 1],
      [2, 3]])
np.transpose(x)
```

A) array([[0, 2], [1, 3]])

B) array([[0, 1], [2, 3]])

C) array([[2, 3], [0, 1]])

D) None of the mentioned above

Q48. Observe the following code and identify what will be the outcome?

```
import numpy as np

a = np.array([10, 20, 30, 40])
b = np.array([18, 15, 14])
c = np.array([25, 24, 26, 28, 23])
```

```
x, y, z = np.ix_(a, b, c)

print(x)
```

A) [[[10]]

[[20]]

[[30]]

[[40]]]

B) [[[1]]

[[2]]

[[3]]

[[4]]

[[5]]]

C) [[[18]]

[[15]]

[[[14]]]

D) None of the mentioned above

49. The most important object defined in NumPy is an N-dimensional array type called?

A. ndarray

B. narray

C. nd_array

D. darray

50. If a dimension is given as___in a reshaping operation, the other dimensions are automatically calculated.

A. Zero

B. One

C. Negative one

D. Infinite