VECTOR INDIA Scholarship Test model paper for
FULL STACK DEVELOPMENT (MERN Stack)

Duration: 60min.

Python Programming

1   choose the correct option to represent comments in Python.
    a) # this is a comment
    b) """ this is a comment """
    c) '''this is a comment'''
    d) all a,b and c
    e) a and b only

2   Given a function that does not return any value. What value is thrown by default when executed in the shell?
    a) int
    b) void
    c) bool
    d) None

3   What is the return value of trunc() ?
    a) int
    b) float
    c) bool
    d) None of the Above

4   What will be the value of the following Python expression?
    4+7%5
    a)   6   b) 1   c) 4   d) 11

5   Which one of the following operators has the highest precedence in the expression evaluation?
    a) *   b) **   c) /   d) //

6   Predict the output for the following code snippet.
    print(2+3*((True+False)/True))
    a)   5   b) 5.0   c) 8   d) error

7   Find the correct output of the code given below
    print('The sum of {1} and {0} is {2}'.format(100, 200, 500))
    A. The sum of 100 and 200 is 300
    B. The sum of 100 and 200 is 500
    C. Error
    D. The sum of 200 and 100 is 500

8   predict the output for the following code.
     l=[1,2,3,4,5]
     print(l[-2::])
     a) [4]   b) [4,3,2,1]   c) [3,2,1] d) [4, 5]

9   Which among the following codes have equivalent logic?

Code 1:	Code 2:	Code 3:

```
if(value3>1000 and
value3<1006):
  if(value1=="ABC"):
   if(value2=="A"):
     value4=10
   else:
     value4=8
  elif(value1=="XYZ")
:
    if(value2=="A"):
      value4=8
    else:
      value4=6
print(value4)
```

```
if(value3>=1001
and value3<=1005
and
value1=="ABC"):
    if(value2=="A"):
      value4=10
    else:
      value4=8
elif(value3>1000
and value3<1006
and
value1=="XYZ"):
    if(value2=="A")
:
      value4=8
    else:
      value4=6
  print(value4)
```

```
if(value3>1000 and
value3<1006 or
value1=="ABC"):
  if(value2=="A"):
    value4=10
  else:
    value4=8
elif(value3>1000
and value3<1006
or  value1=="XYZ")
:
    if(value2=="A"):
      value4=8
    else:
      value4=6
print(value4)
```

        a) code 1 code 2   b) code 2 code 3   c) code 1 code 3

10   How many times "TPF" will be printed in the output?
     grade_list = ["A+","A-","B","B+","A+","A+","A-"]
     for grade in grade_list:
        if grade == "A+":
           print("TPF")
        else:
           print("Not TPF")
     a)   2   b) 3   c) 4

11   What is the output of the following code snippet?
     def verify(num1,num2):
        if num1 > num2:
           return num1
        elif num1 == num2:
           return 1
        else:
           return num2

```
def display(arg1,arg2):
   if(verify(arg1,arg2)==arg1):
      print("A")
   elif(verify(arg1,arg2)==1):
      print("C")
   else:
      print("B")
display(1000,3500)
```
a)   A   b) B c) C d) error

12   How many comparisons will take place before flag becomes 1?
```
num_list = [1,33,31,5,26,7,8,92,10]
num = 7
flag = 0
for item in num_list:
   if(item == num):
      flag = 1
   else:
      continue
if(flag == 1):
   print(num, "found in the list")
else:
   print(num, "NOT found in the list")
```
a)   5   b) 6 c) 1 d) 9

13   What is the output of the below code?
```
song="JINGLE Bells jingle Bells Jingle All The Way"
song.upper()
song_words=song.split()
count=0
for word in song_words:
   if(word.startswith("jingle")):
      count=count+1
print(count)
```
a)   0   b) 1 c) 2 d) 3

14   Consider the following list of pan card numbers:
pancard_list=["AABGT6715H", "UFFAC4352T", "IFSBD9163K",
"JOOEC1225H","RWXAFE187B"]
What is the output of the below two print statements?
print(pancard_list[3][6], end=" ")
print(pancard_list[4][3:])
a)   9 OEC1225H
b)   2 AFE187B
c)   9163K O
d)   225H A

15 In a Python program, a control structure:
a) directs the order of execution of the statements in the program.
b) dictates what happens before the program starts and after it terminates.
c) defines program-specific data structures
d) manages the input and output of control characters

16 The order of statement execution in the form. of top to bottom, is known _____ as construct.
a) selection b) repetition c)sequence   d) flow

17 Which keyword is used to terminate the looping in Python when certain condition is met.
a) break b) raise c) pass   d) continue

18 What will be the output of the following Python expression?
0x35 | 0x75
a) 115   b) 116 c) 117 d) 75

19 What will be the output of the following Python function?
```
def f(p, q):
        return p%q
f(0, 2)
f(2, 0)
```
a)   Zero Division Error b) 0   Zero Division Error
c)   0 0   d)   2 0

20 what will be the output of the following code.
```
def fun(a,b,c):
   c=(c+7)^c
   for c in range(2,6):
       b=(2+3)+a
   return a+b
print(fun(7,7,7))
```
a)   20   b) 16   c) 19   d) 26

21 what will be the output of the following code.
```
def fun(a,b):
   if a>0:
       return fun(a-5,b)+fun(a-5,b-2)
   return a
print(fun(4,2))
```
a)   -6   b) 4   c) -2   d) 0

22 what will be the output of the given python code?
```
s="KitKat"
ss=s[0:5]
l1=len(ss)
l2=len(s)
print(l2%l1)
```
a) 5   b) 1   c) 2   d) 0

23 Which of the following methods is used to add elements to a list at a particular index?
a) append()   b) extend() c) add()   d) insert()

24 What will be the output of the given python code.

```
c=0
while c<3:
        if (c<2) and (c<6):
                print('Work')
        c=c+1
print("Done")
```

a)   Work Work Work Done   b) Work Done   c) Work Work Done d) Done

25 ramu is a python developer who has written the below code. He desires the output to be 123 Volvo, but, he is unable to proceed due to an error.

```
class Car:
        def __init__(s,car_id,car_name):
                s.__car_id=car_id              #Line 1
                s.car_name=car_name            #Line2
c1=Car(123,"Volvo")                            #Line3
print(c1.car_id,c1.car_name)                   #Line4
```

    a) Change Line 4 to print(c1.__car_id,c1.car_name)
    b) Add a method to the Car class as follows: def get_car_id(s)
       return car_id
    c) Change Line 1 to s.car_id=car_id
    d) No need for any modification

26 Please observe the following code

```
def my_fun(insert_amt,account):
        if(account==105 and insert_amount):
                #Line1
        #Line2
insert_amount=True
account=105
print(my_fun(insert_amount,account))
```

Identify the statements to be replaced in Line1 and Line2 respectively such that the output is as below.
Successful
Thankyou
    a) Line1: return "Successful"
       Line2: return "Thankyou"
    b) Line1: return "Successful"
       Line2: print("Thankyou")
    c) Line1: print("Successful")
       Line2: return "Thankyou"

d) Line1: print("Successful")
   Line2: print("Thankyou")

27 From the below code snippet, identify how many reference variables(s) refer to the object created in Line 1 at the end of Line 2.

```
Class Team:
        c=0
        def __init__(s):
                pass
ct=Team()  #Line1
ft=Team()
ht=ft
ft=ct
ft=Team()
ct=ht          #Line2
```
   a) 2   b) 3   c) 1   d) 0

28 Select the output of the following code.
   a= "Welcome to \"my\" blog"
   print(a)
   a) Welcome to "my" blog   b) Welcome to \"my\" blog   c) Error
   d) None of the above

29 Which of the following is not a string
   a) a="True"   b) a="3123"   c) a="3.123"   **d)a=False**

30 Choose the correct option with respect to Python.
   a) Both tuples and lists are immutable.
   b) Tuples are immutable while lists are mutable.
   c) Both tuples and lists are mutable.
   d) Tuples are mutable while lists are immutable.

Aptitude and verbal

31   What is the next number in the series 70,54,45,41?
      a) 40 b) 35 c) 45 d) 54

32 A train 120 meters long is running with a speed of 60 km/hr. In what time will it pass a boy who is running at 6 km/hr in the direction opposite to that in which the train is going?
      a) 6.54sec b) 44.32sec c) 55 sec d) 30.2 sec

33 The cost of setting up a magazine is Rs. 2800. The cost of paper and ink etc is Rs. 80 per 100 copies and printing cost is Rs. 160 per 100 copies. In last month 2000 copies were printed but only 1500 copies could be sold at Rs. 5 each. Total 25% profit on the sale price was realized. There is one more resource of income from magazine which

is advertising. What sum of money was obtained from advertising in magazine?

    a) Rs.1750   b) Rs. 2350   c) Rs. 1150 d) Rs.1975

34   Fresh fruit contains 68% water and dry fruit contains 20% water. How much dry fruit can be obtained from 100 kg of fresh fruits?

    a) 20 b) 30 c)40 d) 50

35   In a two-digit number, the digit in the unit's place is more than twice the digit in ten's place by 1. If the digits in the unit's place and the ten's place are interchanged, the difference between the newly formed number and the original number is less than the original number by 1. What is the original number?

    a) 35 b) 36 c) 37 d) 39

36   Find the odd man out? 396, 462, 572, 427, 671, 264.

    a) 671 b) 462 c) 427 d) 264

37   A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had____ apples.

    a) 588 b) 600 c) 672 d) 700

38   The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is

    a) 15 b) 16 c) 18 d) 25

39   How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest?

    a) 3.5 years b) 4 years c) 4.5 years d) 5 years

40   We are driving along a highway at a constant speed of 55 miles per hour (mph). You observe a car one-half mile behind you. The car is moving fast and zooms past you exactly one minute later. How fast is this car traveling (mph) if its speed is constant?

    a) 80 b) 70 c) 72 d) 85

41   A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?

    a) 3.6 b) 7.2 c) 8.4 d) 10

42   A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

    a) 12 days b) 15 days c) 16 days d) 18 days

43   Find the odd man out.

    8, 27, 64, 100, 125, 216, 343

    a) 27 b) 100 c) 125 d) 343

44 A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs. 6500?
a) Rs. 4991   b) Rs. 5991 c) Rs. 6001 d) Rs. 6991

45 If Ajith writes code for COUNSEL as BITIRAK, how will he write GUIDANCE?
a) EOHYZKBB   b) FOHYZJBB   c) FOHZZKAB d) HOHYBJBA

46 Kamal pointed to a photograph and says. "The lady in the photograph is my nephew's maternal grandmother." How is the lady in the picture related to the Kamla's sister if he has no sister of his own?
a) Mother-in-law   b) Cousin c) Sister-in-law d) Mother e) Aunt

47 In the following questions choose the word which is the exact OPPOSITE of the given words.
EXODUS
a) Influx b) Home-coming c) Return d) Restoration

48 In the following, the questions choose the word which best expresses the meaning of the given word.
SHALLOW
a) Artificial b) Superficial c) Foolish   d) Worthless

49 I don't know what's the matter with me today I suppose I'm feeling under the _____ .
a) clouds b) weather   c) rain   d) tiles

50 One who pretends to be what he is not.
a) Robber b) Hypocrite   c) Fraud   d) Fallible