

RAVI MATHS TUITION & TEST PAPERS , WHATSAPP 8056206308

1 Revision of the Basics of Python

12th Standard

Computer Science

Multiple Choice Question

38 x 1 = 38

- 1) Which of the following is valid arithmetic operator in Python?
(a) // (b) ? (c) < (d) AND
- 2) Which of the following is invalid?
(a) `_a = 1` (b) `_a = 1` (c) `_str_ = 1` **(d) none of the mentioned**
- 3) Which of the following is an invalid variable?
(a) `my_string_1` **(b) 1st_string** (c) `foo` (d) `_`
- 4) All keywords in Python are in _____.
(a) lower case (b) UPPER CASE (c) Capitalized **(d) None of the mentioned**
- 5) Which of the following is true for variable names in Python?
(a) unlimited length (b) all private members must have leading and trailing underscores
(c) underscore and ampersand are the only two special characters allowed
(d) none of the mentioned
- 6) Which of the following is an invalid statement?
(a) `abc = 1,000,000` **(b) a, b, c = 1000,2000,3000** (c) `a,b,c = 1000,2000,3000`
(d) `a, b, c = 1000, 2000, 3000`
- 7) What is the output of `0.1 + 0.2 == 0.3`?
(a) True **(b) FALSE** (c) Machine dependent (d) ERROR
- 8) Which of the following is not a complex number?
(a) `k = 2 + 3j` (b) `k = complex(2,3)` **(c) k = 2 + 31** (d) `k = 2 + 3J`
- 9) In python `~x=-(x+1)` then, what does `_____5` evaluate to?
(a) +5 (b) -11 (c) +11 (d) -5
- 10) Which of these is not a core data type?
(a) Lists (b) Dictionary (c) Tuples **(d) Class**
- 11) In a Python program, a control structure:
(a) Defines program-specific data structures
(b) Directs the order of execution of the statements in the program
(c) Dictates what happens before the program starts and after it terminates (d) None of the above
- 12) Which one of the following is a valid Python if statement:
(a) if a > =2: (b) `if (a > =22)` (c) `if (a = > 22)` (d) `if a > = 22`
- 13) What keyword would you use to add an alternative condition to an if statement?

- (a) else if (b) elseif **(c) elif** (d) None of these
- 14) What will be out put of this expression: 'p' + 'q'
(a) pq (b) rs (c) pqrs (d) pq12
- 15) Which statement will check if a is equal to b?
(a) if a = b: **(b) if a==b:** (c) if a === c: (d) if a == b
- 16) Which of the following is a valid for loop in Python?
(a) for(i=0; i **(b) for i in range(0,5):** (c) for i in range(0,5) (d) for i in range(5)
- 17) Which of the following sequences would be generated in the given line of code? range (5,0, -2)
(a) 5 4 3 2 1 0 -1 (b) 5 4 3 2 1 0 **(c) 5 3 1** (d) None of the above
- 18) What will be the output of the following code?
x = "abcdef"
i = "i"
while i in x:
print(i, end=" ")
(a) a b c d e f (b) abcdef (c) i i i i i... **(d) No output**
- 19) What will be the output of the following code?
x = 12
for i in x;
print(i)
(a) 12 (b) 1 2 **(c) Error** (d) None of the above
- 20) Which type of error occurs when rules of programming language are misused?
(a) Syntax error (b) Semantic error (c) Run time error (d) Logical error
- 21) Which of the following is/are compile time errors?
(a) Syntax error (b) Semantic error **(c) a and b both** (d) None of these
- 22) How many types of error are in Python?
(a) One (b) Two **(c) Three** (d) Four
- 23) Which of the following statements is used to create an empty set?
(a) {} **(b) set()** (c) [] (d) ()
- 24) What is the output of the following piece of code when executed in the Python shell?
a={1,2,3}
a.intersection_update({2,3,4,5})
a
(a) {2,3} (b) Error, duplicate item present in list
(c) Error, no method called intersection_update for set data type (d) {1,4,5}
- 25) What is the output of the code shown below?
s=set([1, 2, 3])
s.union([4,5])
s | ([4,5])
(a) {1, 2, 3, 4, 5}{1, 2, 3,4, 5} (b) Error{1, 2, 3, 4, 5} **(c) {1, 2, 3, 4, 5}Error** (d) ErrorError
- 26) What is the output of the line of code shown below, if s1= {1, 2,3}?
s1.issubset(s1)

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(a) **True** (b) Error (c) No output (d) False

27) Identify the valid declaration of L:

L = [1,23, 'hi', 6]

(a) **list** (b) dictionary (c) array (d) tuple

28) Which is the correct form of declaration dictionary

(a) **Day= {1:'monday',2:'tuesday' ,3:'wednesday'}** (b) Day=(1;'monday',2;'tuesday',3;'wednesday')

(c) Day= [1:'monday' ,2:' tuesday' ,3:'wednesday'] (d) Day= [1'monday',2'tuesday' ,3'wednesday']

29) Sorting means arranging the elements in

(a) ascending order (b) descending order (c) **Either a or b** (d) None of these

30) Which of the following is/are sorting technique?

(a) Bubble sort (b) Insertion sort (c) **Both a and b** (d) None of these

31) What is the output when the following code is executed?

```
print r"\nhello"
```

(a) a new line and hello (b) **\nhello** (c) the letter r and then hello (d) Error

32) What is the output of "hello" +1+2+3 ?

(a) hello123 (b) hello (c) **Error** (d) hello6

33) Suppose i is 5 and j is 4, i + j is same as

(a) i._add(j) (b) **i._add_(j)** (c) i._Add(j) (d) i._ADD(j)

34) What is the output of the following?

```
print('*', "abcdef".center(7), '*')
```

(a) * abcdef * (b) *** abcdef *** (c) *abcdef * (d) * abcdef*

35) Which function helps us to randomize the items of a list?

(a) **shuffle ()** (b) mean () (c) choice () (d) max ()

36) An empty sequence as arugument raises an _____.

(a) Syntax Error (b) **Index Error** (c) Rand Error (d) None of these

37) Which type of elements are accepted by random. Shuffle()?

(a) tuples (b) dictionaries (c) **lists** (d) strings

38) Which function calculates middle value of the arithmetic data in iterative order?

(a) **median()** (b) mode (c) mean () (d) None of these

2 Marks

92 x 2 = 184

39) What possible output(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables FROM and TO.

```
import random
AR=[20,30,40,50,60,70]
FROM =random.randint(1,3)
TO=random.randint(2,4)
for K in range(FROM,TO+1):
print (AR[K],end="# ")
```

(i) 10#40#70#

(ii) 30#40#50#

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(iii) 50#60#70#

(iv) 40#50#70#

Answer : (ii) 30#40#50# Maximum value for FROM,TO are 3,4 respectively

- 40) Which of the following can be used as valid variable identifier(s) in Python?
- (i) total
 - (ii) > selute
 - (iii) Que\$tion
 - (iv) great

Answer : (i) and (iv) are valid.

- 41) Which of the following can be used as valid variable identifier(s) in Python?
- (i) 4thSum
 - (ii) Total
 - (iii) Number#
 - (iv) _Data

Answer : (ii) Total and (iv) _ Data.

- 42) Out of the following, find those identifiers, which cannot be used for naming variables or functions in a Python program: Total * Tax, While, Class, Switch, 3rd Row, finally, Column () 31, Total.

Answer : Total *Tax, 3rd Row, Column () 31, finally

- 43) Out of the following, find the identifiers, which cannot be used for naming Variables or Functions in a Python program:
_Cost, Price*Qty, float, Switch, Address one, Delete, Number12, do

Answer : Price*Qty, float, Address one, do

- 44) Out of the following find those identifiers, which can not be used for naming Variables or Functions in a Python Program :
Days *Rent, For, A._ price, Grand Total, do, 2Clients, Participant 1, _Mycity

Answer : illegal variables or functions name are as below:

Days * Rent, do, Grant Total, 2Clients

Because of being either keyword or including space or operator or starting with integer.

- 45) Name the function / method required for
- (i) Finding second occurrence of m in madam..
 - (ii) get the position of an item in the list.

Answer : (i) find
(ii) index

- 46) What are the two ways of output using print()?

Answer : Ordinarily, each print statement produces one line of output. You can end the print statement with a trailing ', ' to combine the results of multiple print statements into a single line.

- 47) Why does the expression $2 + 3 * 4$ result in the value 14 and not the value 24?

Answer : Operator precedence rules make the expression to be interpreted as $2 + (3*4)$ hence the result is 14.

- 48) What are mutable and immutable objects ?

Answer : Mutable objects are those that allow and support changes in their contents. The mutable types include Lists and Dictionaries. It means that no new value object is created rather changes are made in the same value object.

Immutable objects are those that can never change their value. In Python, integer, floating point numbers, Boolean, strings and tuples are immutable.

- 49) Identify the types of data from the following set of data: "Arnav", u' Arnav', False, 'False', ['A','r','n','a','v'], ('A','r','n','a','v'), (3.7-j), 12L

Answer : (i) ' Arnav' - ASCII String.

(ii) u" Arnav' - Unicode string.

(iii) False-Boolean False.

(iv) ' False' - ASCII String.

(v) ['A','r','n','a','v']- List.

(vi) (' A', ' r ', 'n', ': a', V)- tuple

(vii) (3.7-j) Complex number.

(viii) 12L - Long integer

- 50) What will be the result of following functions

1. Unicode (3 + 2j)

2. Str (015)

3. Complex (3,2)

4. long (5.7)

Answer : (i) u'3 + 2j '

(ii) '15'

(iii) 3 + 2j

(iv) 5L

- 51) State when only first argument is evaluated and when both in following expressions if a = 12, b= 26, c = 12, d = 0:

(i) b > c and c > d

(ii) a < = b or c < = d

(iii) (b + c) < = a and not (c < a)

(iv) b < d and d < a

Answer : (i) both cases are true

(ii) both cases are true

(iii) both cases are false

(iv) both cases are false

- 52) Highlight the literals in the following program and also predict the output. Mention the types of variables in the program.

a=3

b='l'

c=a-2

d=a-c

e="Kathy"

f='went to party'

g='with Sathy'

print (a,g,e,f,a,g," ",d,g," ",c,g,"and his",e,f)

Answer : a,c,d = integer

b,e,f,g = string

Output: 3 with Sathy Kathy went to party 3 with Sathy, 2 with Sathy , 1 with Sathy and his Kathy went to party

- 53) What would be the output of the following code snippets?

print (4+9)

print ("4+9")

Answer : 13

4+9

- 54) Give the output of following with justification.

x=3


```
x+= x-x
```

```
print(x)
```

Answer : Output: 3

Working:

$x+=x-x$ will be calculated as $x=3+3-3$

Hence, final value of $x=3$

- 55) What will be the output of the following statement? Also, justify the answer.
> > > print 'Radha's dress is pretty'.

Answer : SyntaxError: invalid syntax.

The single quote needs to be replaced by `'\'` to get the expected output.

- 56) Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code. for Name in [Amar,Shveta, Parag]
If Name [0]= 's':
Print (Name)

Answer : for Name in ["Amar","Shveta","Parag"] :

if Name [0] == 's':

print(Name)

- 57) Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.
for Name in [Ramesh, Suraj, Priya]
If Name [0] = 's' :
Print (Name)

Answer : for Name in [" Ramesh " ." Suraj " ." Priya "]:

if Name [0] == 's' :

print(Name)

- 58) Write a program to read a number. If the number is even print half the number otherwise print the next number. End your program by printing "Thank You".

Answer : num = int (input CEnter a number:"))

if num % 2 == 0:

print ("The given number is even")

print ("The half-number is", num/2)

else:

print ("The given number is odd")

print ("The next number is", num + 1)

print ("Thank You!")

- 59) Write a program to print negative, zero or positive according to whether variable x is less than zero, zero or greater than zero respectively.

Answer : x = int (input ("Enter a number:"))

if (x > 0):

print ("positive")

elif (x < 0):

print ("negative")

else:

print ("zero")

- 60) Write a Python program that accepts two integers from the user and prints a message saying if first number is divisible by second number or if it is not.

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Answer : `x = int(input("Enter first number"))
y = int(input("Enter second number"))
if (x % y == 0):
 print(x, 'is divisible by', y)
else:
 print(x, 'is not divisible by', y)`

- 61) Write a program to display a menu for calculating area of a circle and perimeter of a circle.

Answer : `radius = float(input("Enter radius of the circle"))
print("1. Calculate Area")
print("2. Calculate Perimeter")
choice = int(input("Enter your choice (1 or 2):"))
if choice == 1:
 area = 3.14159 * radius ** 2
 print("Area of the circle is", area)
else:
 perim = 2 * 3.14159 * radius
 print("Perimeter of the circle is", perim)`

- 62) Write the output from the following code:

```
y = 2000  
if (y%4==0):  
    print("LeapYear")  
else:  
    print("Not leap year")
```

Answer : Leap Year

- 63) Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.

```
30=To  
for K in range(0,To)  
IF k%4==0:  
    print (K*4)  
Else:  
    print (K+3)
```

Answer : To=30
`for K in range(0,To) :
 if k%4==0:
 print (K*4)
 else:
 print (K+3)`

- 64) Rewrite the following Python code after removing all syntax error(s). Underline the corrections done.

```
def main():  
    r = input('enter any radius: ')  
    a = pi * math.pow(r,2)  
    print ("Area = " + a)
```

Answer : `def main():
 r = input('enter any radius: ')
 a = math.pi * math.pow(r,2)
 print ("Area = ", a)`

- 65) Rectify the error (if any) in the given statements.

```
> > > str="Hello Python"  
> > > str[6]='S'
```

Answer : str[6] = 'S' is incorrect 'str' object does not support item assignment.
str.replace(str[6], 'S')

66) Find the errors from the following code:

```
T=[a,b,c]  
print (T)
```

Answer : Name error: name 'a' is not defined
T=['a', 'b', 'c']

67) Find the errors from the following code:

```
for i in 1 to 100:  
print (I)
```

Answer : for i in range(1,100):
print (i)

68) Find the errors from the following code:

```
i=10;  
n=100  
while [ i< =n]  
print (i)  
i+=10
```

Answer : i=10
n=100
while (i=n):
print (i)
i+=10

69) Find the errors from the following code:

```
if (a > b)  
print (a):  
else if (a< b)  
print (b):  
else  
print ("both are equal")
```

Answer : if (a > b):
print (a)
elif(a< b)
print (b):
else
print ("both are equal")

70) Find the errors from the following codes:

```
c=dict()  
n=input(Enter total number)  
i=1  
while i < =n:  
a=input("enter place")  
beinputt"enter number")  
c[a]=b  
i=i+1  
print ("place", "\t", "number")  
for i in c:  
print (i, "\t" ,c[a[i]])
```

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Answer : c=dict ()
n=input("Enter total number")
i=1
while i<=n :
a=input("enter place")
b=input("enter number")
c[a]=b
i=i+1
print ("place","\t","number")
for i in c:
print (i,"\t",c[i]).

- 71) Write algorithm to sort an array B using bubble sort.

Answer : for 1= LTo U
{ for J = L To [u-1-I]
{ if B [J] > B [J+1] then
 {temp = B[J]
 BU] = B U+1]
 B [j +1] = temp
 }
 }
}
. End

- 72) Consider the following list 95 79 19 43 52 3
Write the passes of bubble sort sorting the list in ascending order till the 3rd iteration.

Answer : [79,19,43,52,3,95] - Pass 1
[19,43,52,3,79,95] - Pass 2
[19,43, 3, 52, 79, 95] - Pass 3

- 73) What is bubble sort?

Answer : Bubble sort is a simple sorting technique that works by repeatedly stepping through the list to be sorted, comparing each pair of adjacent items and swapping them if they are in the wrong order. The pass through the list is repeated until no swaps are needed, which indicates that the list is sorted. The algorithm gets its name from the way smaller elements "bubble" to the top of the list. Because it only uses comparisons to operate on elements, it is also called a comparison sort.

- 74) Explain insertion sort.

Answer : Every repetition of insertion sort removes an element from the input data, inserting it into the correct position in the already-sorted list, until no input elements remain. The choice of which element to remove from the input is arbitrary and can be made using almost any choice algorithm.

- 75) Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.

```
STRING = " WELCOME"  
NOTE" "  
for S in range [0, 8]:  
print (STRING(S))  
print (S STRING)
```

Answer : STRING = " WELCOME"
NOTE=" "
for S in range [0, 8]:
print (STRING[S]).
print (S + STRING)

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