



Python

Question Paper *Phiếu câu hỏi*

Time allowed: 60 minutes

Thời gian thi: 60 phút

Instructions to Contestants: (*Hướng dẫn thi*)

1. Each contestant should have ONE Question-Answer Book which CANNOT be taken away.
Mỗi thí sinh được cấp MỘT bộ Phiếu câu hỏi - Phiếu trả lời. Thí sinh KHÔNG ĐƯỢC mang tài liệu ra ngoài phòng thi.
2. There are a total of 20 questions in this Question-Answer Book. Four points for a correct answer. No points for blank answers. ONE penalty point will be deducted for an incorrect answer.
Đề thi gồm 20 câu hỏi. Mỗi câu trả lời đúng được 4 điểm. Câu không trả lời không bị trừ điểm. Mỗi câu trả lời sai sẽ bị trừ MỘT điểm.
3. All answers should be written on ANSWER SHEET.
Tất cả đáp án phải được điền vào PHIẾU TRẢ LỜI.
4. During the contest, NO calculators can be used for Scratch and Blockly but calculators can be used for Python.
Thí sinh thi ngôn ngữ Scratch và Blockly KHÔNG được dùng máy tính cầm tay. Thí sinh thi ngôn ngữ Python được dùng máy tính cầm tay.
5. This Question-Answer Book will be collected at the end of the contest.
Bộ Phiếu câu hỏi – Phiếu trả lời sẽ được thu lại sau khi thí sinh hoàn thành bài thi.
6. DO NOT turn over this Question-Answer Book without approval of the examiner.
Thí sinh KHÔNG tự ý xem đề khi chưa có hiệu lệnh của giám thị.

Otherwise, contestant may be DISQUALIFIED.

Nếu thí sinh vi phạm một trong các điều trên, BTC có quyền hủy kết quả thi của thí sinh đó.

1. Which of the following is a valid dictionary?
 - A. `abc={'a'=12,'b'=34, 'c'=56}`
 - B. `abc={'a':12,'b':34, 'c':56}`
 - C. `abc={a:12,b:34, c:56}`
 - D. All the above
 - E. None of the above
2. Which of the following operator precedence is correct?
 - A. Parenthesis > Exponentiation > Remainder > Addition
 - B. Parenthesis > Multiplication > Exponentiation > Addition
 - C. Exponentiation > Parenthesis > Remainder > Multiplication
 - D. Exponentiation > Parenthesis > Division > Addition
 - E. None of the above

3. Which is the better statement if `x+=1` is removed?

```
1  x=0
2  while (x<10):
3      print(x)
4      x+=1
```

- A. There is no difference
 - B. The loop is infinite
 - C. The print function is stopped
 - D. The output equals to 10
 - E. None of the above
4. Refer to the following code, which of the following statement is correct?

```
1  x=20;
2  y=3.1;
3
4  print("sum =" and +x +y)
```

- A. The code doesn't have errors
 - B. The code shows unidentified syntax (semicolon)
 - C. Integer cannot add with float
 - D. The expression `a + b` does not have a left hand side operator
 - E. None of the above
5. What is the value of `print(sum([ord(d)-ord('a') for d in "abcd"]))`?
 - A. 3
 - B. 4
 - C. 5
 - D. 6
 - E. None of the above

6. What is the expected output of the following code?

```
1 x=3;
2 y=7%5;
3
4 def main()
5     x=5
6     y=2
7
8 main()
9
10 if y==2;
11     x=3
12 print(x+y)
```

- A. 4
 - B. 5
 - C. 6
 - D. 7
 - E. None of the above
7. Which of the following Mathematical Function is/are **NOT** included?
- A. sqrt(x)
 - B. floor(x)
 - C. root(x,y)
 - D. ceil(x)
 - E. None of the above
8. What is the output?

```
1 sum = 0
2 count = 0
3 for value in [9,41,12,3,74,15]:
4     sum+=value
5     count+=1
6
7 print(sum, count, int(sum/count))
```

- A. 154 6 25
- B. 155 6 24
- C. 154 5 24
- D. 155 5 25
- E. None of the above

9. What is the 5th expected output?

```
1 First = ["A", "B", "C"]
2 Second = ["D", "E", "F"]
3
4 for x in First:
5     for y in Second:
6         print([x, y])
```

- A. [A , F]
- B. ['A' , 'F']
- C. [B , E]
- D. ['B' , 'E']
- E. None of the above

10. Given the code:

```
1 x='HKICO'
2 y='2022'
3
4 var=x+y
```

Which of the following is code correct if the output is I ?

- A. print(x[3])
- B. print(x[4])
- C. print(var[2])
- D. print(var[3])
- E. None of the above

11. Given the code:

```
1 counts=dict()
2 line='Hello World , python is not a python'
3 words=line.split()
4
5 for word in words:
6     counts[word]=counts.get(word,0)+1
7
8 print(counts)
```

Which of the following statement is/are correct?

- A. split() is to split a string into a list
- B. [word] = line
- C. The output is ordered by ascending order
- D. All the above are correct
- E. None of the above

Refer to the following code for below question:

```
1 x=int(input('Input a number:'))
2
3 def RE(x):
4     if(x==1):
5         result = x
6     else:
7         result = x * RE(x-1)
8     return result
9
10 print(RE(x))
```

12. What is the expected output if the input is x ?

- A. 1.1
- B. 1.21
- C. 1
- D. x
- E. None of the above

Refer to the following code for below question:

```
1 x=int(input('Input a number:'))
2
3 def RE(x):
4     if(x==1):
5         result = x
6     else:
7         result = x * RE(x-1)
8     return result
9
10 print(RE(x))
```

13. What is the expected output if the input number = 1.1 ?

- A. 1.1
- B. 1.21
- C. 1
- D. x
- E. None of the above

Refer to the following code for below question:

```
1 x=int(input('Input a number:'))
2
3 def RE(x):
4     if(x==1):
5         result = x
6     else:
7         result = x * RE(x-1)
8     return result
9
10 print(RE(x))
```

14. What is the expected output if the input number = 5 ?

- A. 5
- B. 20
- C. 100
- D. 120
- E. None of the above

Refer to the following code for below question:

```
1 class Add:
2     fir=0
3     sen=0
4     ans=0
5     def __init__(self,f,s):
6         self.fir=f
7         self.sen=s
8     def cal(self):
9         self.ans=self.fir+self.sen
10    def dis(self):
11        print(self.ans)
12
13 obj=Add(1000,2000)
14 obj.dis()
```

15. What is the expected output?

- A. 1000
- B. 2000
- C. 3000
- D. 0
- E. None of the above

Refer to the following code for below question:

```
1 class Add:
2     fir=0
3     sen=0
4     ans=0
5     def __init__(self,f,s):
6         self.fir=f
7         self.sen=s
8     def cal(self):
9         self.ans=self.fir+self.sen
10    def dis(self):
11        print(self.ans)
12
13 obj=Add(1000,2000)
14 obj.dis()
```

Does it have errors during execution if `__init__` changes to `init`?

- A. No, the code doesn't have errors
- B. No, the variable type is same
- C. Yes, unidentified syntax
- D. Yes, integer cannot add with float
- E. None of the above

Refer to the following code for below question:

```
1 class Hello:
2     def __init__(self, a, b):
3         self.a = a
4         self.b = b
5
6     def __str__(self):
7         return 'Hello (%d, %d)' % (self.a, self.b)
8
9     def __add__(self, other):
10        return Hello(self.a + other.a, self.b + other.b)
11
12 v1 = Hello(2,10)
13 v2 = Hello(5,-2)
14 print (v1 + v2)
```

17. What is the expected output of the code?

- A. Hello (7) Hello (8)
- B. Hello (7, 8)
- C. Hello (15)
- D. The code has runtime error
- E. None of the above

18. Refer to the following code for below question. What is `%d` ? What is the expected output of the code if `%d,%d` changes to `%c,%c`?

```
1 class Hello:
2     def __init__(self, a, b):
3         self.a = a
4         self.b = b
5
6     def __str__(self):
7         return 'Hello (%d, %d)' % (self.a, self.b)
8
9     def __add__(self, other):
10        return Hello(self.a + other.a, self.b + other.b)
11
12 v1 = Hello(2,10)
13 v2 = Hello(5,-2)
14 print (v1 + v2)
```

- A. A placeholder to specify integer values, decimals or numbers, `Hello (.)Hello (.)`
- B. A large variety of data types and configurations, `Hello (.,.)`
- C. A placeholder to specify float values, decimals or numbers, `Hello (..)`
- D. A placeholder to specify decimals or numbers, `Hello (.)`
- E. None of the above

Refer to the following code for below question:

```
1 def main(number):
2     if(number == 0):
3         return 0
4     elif (number == 1):
5         return 1
6     else:
7         return (main(number - 2)+ main(number - 1))
8
9 number = int(input("Enter A Number: "))
10 for n in range(0, number):
11     print(main(n))
```

19. What is the expected sum output if the number = 5.0?

- A. 6
- B. 7
- C. 8
- D. 9
- E. None of the above

Refer to the following code for below question:

```
1 def main(number):
2     if(number == 0):
3         return 0
4     elif (number == 1):
5         return 1
6     else:
7         return (main(number - 2)+ main(number - 1))
8
9 number = int(input("Enter A Number: "))
10 for n in range(0, number):
11     print(main(n))
```

20. Which of the following statement is/are correct?

- A. The code would result same output if else is changed to elif
- B. The code would result in runtime error if the number is less than 0
- C. The code would result same output if elif is changed to else
- D. All the above are correct
- E. None of the above

~ End of Paper ~