

Annual Examination, 2020 - 2021

Computer Science (Theory)

Grade: 11

Time allowed: 3 hours

Date: 14.02.2021

Maximum Marks: 70

General Instructions:

1. This question paper contains two parts A and B (Total 5 Pages). Each part is compulsory.
 2. Part-A has 2 sections:
 - a. Section – I is short answer questions, to be answered in one word or one line.
 - b. Section – II is short answer questions of 2 marks each.
 3. Part- B has 2 sections:
 - a. Section-I is long answer questions of 3 marks each.
 - b. Section-II is very long answer questions of 4 marks each.
 5. All programming questions are to be answered using Python Language only.
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Question No.	Part-A	Marks allocated
	Section - I Select the most appropriate option out of the options given for each question or to be answered in one word or one line. Each question carries 1 mark.	(15x1=15)
1	Which of the following can be used as valid variable identifier(s) in Python? New.file, _amount, For, 2numbers,Symbols#	1
2	IDLE is the abbreviation of _____.	1
3	Identify and write the name of the module to which the following functions belong: (i) ceil() (ii) uniform()	1
4	Find the output from the following Python code: >>>List1 = list ('Welcome') >>>print(List1)	1
5	Lists are indexed by an _____	1
6	Which function returns item from the tuple with max value.	1

- 7 Write the output of the given python code : 1
 tpl1 =(10, 12, 14, 20, 22, 24, 30, 32, 34)
 seq= tpl1[3:7]
 print(seq)
- 8 Find the identity operator from the following: 1
 (i) % (ii) is (iii) in (iv) ==
- 9 Identify the valid declaration of L: 1
 L = [1, 23, 'hi', 6].
 (i) list (ii) dictionary (iii) array (iv) tuple
- 10 Which is the correct form of declaration of dictionary? 1
 (i) Day={1:'monday',2:'tuesday',3:'wednesday'}
 (ii) Day={1:'monday',2:'tuesday',3:'wednesday'}
 (iii) Day=(1;'monday',2;'tuesday',3;'wednesday')
 (iv) Day=[1:'monday',2:'tuesday',3:'wednesday']
- 11 _____are pre-defined words that have a special meaning in Python. 1
- 12 Find the output of the following: 1
 for i in range(5,3,-1):
 print(i)
- 13 Write the type of tokens from the following: 1
 (i) if (ii) roll_no
- 14 Find the output of the following: 1
 for i in 'initial':
 if(i == 'i'):
 pass
 else:
 print(i)
- 15 Which of the following is not a relational operator in Python: 1
 (i) < (ii) > (iii) ^ (iv) ==

Section - II

Answer the following questions in two or more sentences. Attempt (7x2=14) all the questions from this section. Each question carries 2 marks.

- 16 Convert the decimal number 1234₁₀ to Hexadecimal. 2

- 17 Find the output of the following python code and give your justification: 2
- ```

x = "abcdef"
i = "a"
while i in x:
 print(i, end = " ")

```
- 18 Suppose L=['abc', [6,7,8], 3, 'mouse' ].Consider the above list and answer the following: 2
- (a) L[3:]  
(b) L[:2]  
(c) L[1:2]  
(d) L[1][1]
- 19 What are literals in Python? Name any two types of literals are allowed in Python? 2
- 20 What is traversing a string? Give an example. 2
- 21 Write the most appropriate list method to perform the following tasks: 2
- a) Delete a given element from the list.  
b) Get the position of an item in the list.  
c) Add an element in the beginning of the list.  
d) Add an element at the end of a list.
- 22 What will be the output of the following programming code: 2
- ```

x= "AmaZing"
print(x[3 : ], "and", x[ : 2])

print(x[2 : 7], "and", x[- 4 : - 1])

```

Part – B

Section - I

(7x3=21)

- 23 What is the purpose of the **del** operator and **pop ()** methods? Give an example for both. 3
- 24 What possible outputs(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. 3

```

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#
 (iii) 50#60#70# (iv) 40#50#70#

25 a) Consider the following code:

```

STR1=input("Enter a string:")
while len(STR1) <= 4:
    if STR1[-1] == 'z':
        STR1= STR1[0:3] + 'c'
    elif 'a' in STR1:
        STR1= STR1[0] + 'bb'
    elif not int(STR1[0]):
        STR1= 'Q' + STR1[1 : ] + 'z'
    else:
        STR1= STR1 + '*'
print(STR1)

```

3

What will be the output produced if the input is:

- (i) 1bzz
 (ii) abcd

b) What do you mean by Iteration? Give an example.

26 List one similarity and one difference between List and Dictionary data type. Give examples for each.

3

27 What is the difference between an expression and a statement in Python?

3

28 Differentiate between mutable and immutable objects in Python language with example.

3

29 Find and write the output of the following Python code:

```
TXT = ["20", "50", "30", "40"]
```

```
CNT = 3
```

```
TOTAL = 0
```

```
for C in [7,5,4,6]:
```

```
    T = TXT[CNT]
```

```
    TOTAL = float(T) + C
```

```
    print(TOTAL)
```

```
    CNT -= 1
```

3

Section - II

(5x4=20)

30 a) Write a Python program to accept the percentage of a student based on the given table and display the grade accordingly using the concept of 'if-elif-else statement'.

4

Percentage of Marks	Grade
>85	A
>70 AND <=85	B
>60 AND <=70	C
>45 AND <=60	D
Below <45	E

b) What do you mean by Membership operators? Give an Example.

31 Explain the two ways for updating elements in a dictionary. Give example for each.

4

32 a) What is the use of *get ()* method in a dictionary. Give an example.

4

b) Write any two characteristics of a dictionary.

33 Write a Python program to print whether the given character is an uppercase or a lowercase or a digit or any other special character.

4

34 a) Describe the following Cybercrimes:

4

i) Cyber Bullying

ii) Cyber Stalking

b) Pharming and Phishing are all examples of potential Internet security issues. Explain what is meant by each of these two terms.