

**AMRITA VIDYALAYAM**  
**ANNUAL EXAMINATION 2019 - 20**

**Class : XI**

**Marks : 70**

**Time : 3 hrs**

# COMPUTER SCIENCE (083)

### GENERAL INSTRUCTIONS:

1. All questions are compulsory.
2. Programming Language: Python.

## SECTION - A

- |    |   |   |
|----|---|---|
| 1. | Define the terms.   | 1 |
|    | a) tautology  |   |
|    | b) fallacy  |   |
| 2. | Who developed Python?   | 1 |
| 3. | Why primary memory is termed as destructive write memory but non-destructive read memory? | 2 |
| 4. | Differentiate between Interpreter and compiler.   | 2 |
| 5. | State and prove De-Morgan's Second Theorem.   | 2 |
| 6. | Convert $(B2F)_{16}$ to Octal.  | 2 |

## SECTION - B

- |     |   |    |
|-----|---|----|
| 7.  | Python is an interpreted high level language. What does it mean to you?   | 1  |
| 8.  | Write a program to obtain the length and breadth of a rectangle and calculate its area.   | 2  |
| 9.  | Differentiate an expression and statement in Python with example.   | 2  |
| 10. | Write a program to obtain temperature in Celsius and convert it into fahrenheit using formula.<br>$^{\circ}\text{C} \times 9/5 + 32 = ^{\circ}\text{F}$   | 2  |
| 11. | Write the corresponding Python expression for the following mathematical expression.<br>a) $2 - ye^{2y} + 4y$<br>b) $e^2 - x$   | 1  |
| 12. | Predict the output.<br><br>a=5<br>b=-3<br>c=25<br>d=-10<br>a+b+c>a+c-b*d<br>str(a+b+c>a+c-b*d) == 'True'<br>len(str(a+b+c> a+c-b*d)) == len(str(bool(1)))   | 2  |
| 13. | Predict the output.<br><br>for i in range(1,b):<br>for j in range (1,i):<br>print ("*",end=' ')<br>print ()   | 1  |
| 14. | What is a string slice? How is it useful?   | 2  |
| 15. | What is the difference between exception and error?   | 2  |
| 16. | How are lists different from strings, when both are sequences?  | 2  |
| 17. | Differentiate append() and extend() method.   | 2  |
| 18. | Write different ways of creating tuples with following numbers.<br>5, 10, 15, 20  | 2½ |
| 19. | Find the errors, underline them and rewrite the same after correcting the following code.<br><br>dl=dict[ ]<br>i = 1<br>n=input("Enter number of entries:")<br>while i<n:<br>a = input("Enter Name:") | 2½ |

```

b = input("Enter age :")
d1(a) = b
i = i+1
l = d1.key[ ]
for i in l:
print(i, '\t', 'd1[i]')

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20. Tuples are immutable. Do you agree to the statement? Give reason. 1
21. Can sequence operations such as slicing and concatenation be applied to dictionaries? Why? 2
22. The \_\_\_\_\_ statement removes a dictionary object along with its items. 1
23. Given an array : 89, 20, 31, 56, 20, sort this array in ascending order. 3
- a) Bubble Sort b) Insertion Sort
24. Write a program that inputs 2 lists and creates a third that contains all elements of the first followed by all elements of the second. 2
25. In which situation, would you prefer bubble sort over insertion sort? 2

### SECTION - C

26. Define the terms. 2
- a) Relation b) Attribute c) Cardinality d) Domain
27. Differentiate. 3
- a) Primary key and foreign key. b) DDL and DML commands.
28. \_\_\_\_\_ is a free and open source document oriented NoSQL Database. 1
29. Write a query to display the name of employee whose name contains 'A' as third alphabet. 1
30. Write SQL commands (a - d) and output (e - h) for the following on the basis of given table 8

No.	Names	Stipend	Stream	AvgMark	Grade	Class
1	Karan	400.00	Medical	78.5	B	12B
2	Divakar	450.00	Commerce	89.2	A	11C
3	Divya	300.00	Commerce	68.6	C	12C
4	Arun	350.00	Humanities	73.1	B	12C
5	Sabitha	500.00	Non Medical	90.6	A	11A
6	Jagan	400.00	Medical	75.4	B	12B
7	Rohit	250.00	Humanities	64.4	C	11A
8	Radha	450.00	Non Medical	88.5	A	12A
9	Vikas	500.00	Non Medical	92.0	A	12A
10	Mohan	300.00	Commerce	67.5	C	12C

- a) Select all Non Medical stream students from student.
- b) List the names of those students who are in class 12 sorted by stipend.
- c) List all students sorted by average mark in descending order.
- d) Display all details of students whose class is 12A and Stream "Non Medical".
- e) SELECT MAX (AvgMark) FROM STUDENT;
- f) SELECT ROUND (AvgMark) FROM STUDENT WHERE Grade = 'B';
- g) SELECT CONCAT (Name, Stream) FROM STUDENT WHERE Class = '12A';
- h) SELECT COUNT (Stream) FROM STUDENT;

### SECTION - D

31. Define Cookies. 1
32. Explain the following Cyber crimes. 2
- a) Cyber Bullying b) Cyber Stalking
33. What is Digital footprint? Why is it so important? 2
34. Define any three methods to prevent identity theft. 3
35. What are the privacy and security features being provided by web browsers? 2