



PB-003-1036003

Seat No. _____

B. C. A. (Sem. VI) (CBCS) Examination

March / April - 2020

CS - 33 : Programming in Python

Faculty Code : 003

Subject Code : 1036003

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70]

- 1 (a) Give appropriate answers for the following questions : 4

 - (1) Who is the developer of python ?
 - (2) What is the output of $30//20$ and $30/20$?
 - (3) What is the output of type(3) ?
 - (4) How to write x raised to power y in python ?

(b) Answer in brief : (any one) 2

 - (1) Explain tuple with example.
 - (2) What is function specification? Explain with example.

(c) Answer in detail : (any one) 3

 - (1) Explain recursion with example.
 - (2) Write down recursive implementation of Fibonacci sequence.

(d) Answer the following questions : (any one) 5

 - (1) Explain List in details with example.
 - (2) Explain dictionary in details with example.

2 (a) Give appropriate answers for the following questions : 4

 - (1) The python _____ statement forces a specified exception to occur.
 - (2) _____ keyword tell the python that function is generator.
 - (3) What is the time complexity of the merge sort ?
 - (4) What is the complexity of binary search when the value of high-low is equal to $\text{len}(L)-1$?

- (b) Answer in brief : (any one) 2
- (1) Explain exception handling in brief.
 - (2) What is assertion ?
- (c) Answer in detail : (any one) 3
- (1) Explain binary search with example.
 - (2) Explain information hiding with example.
- (d) Answer the following questions : (any one) 5
- (1) What is class ? How to create it ? Explain with example.
 - (2) What is inheritance? Explain multi level inheritance with example.
- 3 (a) Give appropriate answers for the following questions : 4
- (1) Which function is used to save plot graph to file ?
 - (2) What is the full form of png ?
 - (3) Dynamic programming was invented by _____ in _____.
 - (4) In rooted binary tree, each non-root node has _____ parent.
- (b) Answer in brief : (any one) 2
- (1) Explain pylab.show() with example.
 - (2) Write a programme to draw simple plot with at least five points.
- (c) Answer in detail : (any one) 3
- (1) Explain any three rc settings parameters with example.
 - (2) Compare dynamic programming and divide and conquer.
- (d) Answer the following questions : (any one) 5
- (1) How to solve 0/1 knapsack problem using dynamic programming ? Explain with example.
 - (2) Explain memorization with Fibonacci example.

4 (a) Give appropriate answers for the following questions : 4

- (1) Give full form of CSV.
- (2) Give full form of JSON.
- (3) Write down regular expression statement to find out all five character long word from string "str1" and print on string.
- (4) What is the output of following code ?

```
import re  
DOB = "08-10-1980 # This is Date of Birth"  
print(re.sub(r'\D', "", re.sub(r'#[.*$', "", DOB)))
```

(b) Answer in brief : (any one) 2

- (1) What is regular expression? Explain with simple example.
- (2) List out all flags modifier with single line meaning.

(c) Answer in detail : (any one) 3

- (1) Explain loads() and dumps() method of json with example.
- (2) Explain meta characters with single line meaning.

(d) Answer the following questions : (any one) 5

- (1) Explain search(), match() and findall() with example.
- (2) Explain screen scraper with example.

5 (a) Give appropriate answers for the following questions : 4

- (1) What is the output of print(dataset.shape) ?
- (2) What is the output of print(dataset.head(5)) ?
- (3) MSE stands for _____.
- (4) Dependent variable is also called _____.

- (b) Answer in brief : (any **one**) 2
- (1) List out basic library required for data analytics in python.
 - (2) Discuss statistical summary function and class distribution in python.
- (c) Answer in detail : (any **one**) 3
- (1) What is big data ? Explain Characteristics of big data.
 - (2) How to visualize the data of any csv file? Write down code for box plot and histogram.
- (d) Answer the following questions : (any **one**) 5
- (1) What is machine learning and predictive analysis ? Discuss in detail.
 - (2) How to build best predictive model ? Explain with example.
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