



**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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