

PY CS | (55)

Q. P. Code: 12208

(Time: 2½ Hours)

[Total Marks: 75]

- N.B. 1) All questions are compulsory.  
 2) Figures to the right indicate marks.  
 3) Illustrations, in-depth answers and diagrams will be appreciated.  
 4) Mixing of sub-questions is not allowed.  
 5) Assume suitable data wherever required.

**Q.1 Attempt All(Each of 5Marks)****(15M)****(a) Multiple Choice Questions**

- <, >, <= are \_\_\_\_\_ operators  
 i) Arithmetic ii) Logical iii) Relational iv) Assignment
- Which of the following function converts a string to all lowercase?  
 i) lower() ii) isdecimal() iii) swapcase() iv) title()
- Python is \_\_\_\_\_ language.  
 i) Compiled ii) Procedure iii) Interpreted. iv) Non-Interactive
- What is the output of len(["Hello", "world", "Python"])?  
 i) 1 ii) 2 iii) 3 iv) 4
- What is "Hello".replace("l", "e")  
 ii) Heeeo ii) Hillo iii) Heleo iv) None of these

**(b) Fill in the blanks**

- What is the data type of the below object \_\_\_\_\_?  
 T = ("PY", 22, 'hello', 1).
- Ternary operator (?) is used for \_\_\_\_\_
- The term IDLE stands for \_\_\_\_\_
- To use in-built mathematical functions we need to import \_\_\_\_\_ module.
- An instance of a class is called as \_\_\_\_\_

**(c) Write answers for the following in few lines**

- Define Assignment statement. 38
- Write the use of del statement. 39
- What is the output when following statement is executed \_\_\_\_\_?  
 >>>"a"+"b"
- Define Expression statement. 40
- Explain the use of "break" statement. 41

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Q. 2 Attempt the following (Any THREE)

(15M)

- (a) What is the difference between simple and compound statements? Explain with example.
- (b) What is Datatype? What are the rules and conventions for declaring a variable?
- (c) Explain any five arithmetic operators in Python.
- (d) Write a short note on tuple.
- (e) Define Function. Write the syntax to define function. Give example of function definition.
- (f) Write a program to calculate Simple Interest. Take Principal amount, rate of interest and number of years from the user. (Hint: Simple Interest =  $(\text{Principal amount} * \text{Rate of interest} * \text{Number of years}) / 100.$ )

Q. 3 Attempt the following (Any THREE)

(15M)

- (a) How do we implement if , elif, else condition? Explain with an example.
- (b) Discuss the difference between local and global variable.
- (c) What is actual and formal parameter? Explain the difference along with an example.
- (d) Explain continue statement.
- (e) What is nested while loop? Explain with example.
- (f) Write a program to print reverse of a number. Take input from user.

Q. 4 Attempt the following (Any THREE) (Each of 5Marks)

(15M)

- (a) Discuss Anonymous function.
- (b) Explain "Dictionary" concept.
- (c) Define Built-in functions. List any 4 built-in functions. Explain dir() functions.
- (d) Write a program to create an anonymous function to calculate cube of a number.
- (e) What is List? Explain with example.
- (f) Write a short note on class.

Q. 5 Attempt the following (Any THREE) (Each of 5Marks)

(15M)

- (a) Discuss Operator Precedence along with an example.
- (b) Explain Time module and its function.
- (c) What is comment? Why we need it? How do we implement it?
- (d) Write a python program to take a string from user and count number of vowel present in it.
- (e) Explain for loop with example.