

2022

COMPUTER SCIENCE — HONOURS

Paper : DSE-B-2

(Programming Using Python)

Full Marks : 50

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

Answer **question no. 1** and **any four** questions from the rest.

1. Answer **any five** questions. 2×5
  - (a) Give an example of a ternary operator in Python with example.
  - (b) List two differences between list and dictionary.
  - (c) Briefly remark about variable declaration in Python, in comparison with other languages like 'C'.
  - (d) Explain with a code snippet, how an element of a list can be changed.
  - (e) Explain the use of file object.
  - (f) Are tuples mutable? Explain with code snippet.
  - (g) Explain how f-string works in Python.
  - (h) Identify different string formats available in Python with example.
  
2. Give Python code snippet for
  - (a) Creating a list with elements like OS, DBMS, CO, Java.
  - (b) Add an element Java to the last.
  - (c) Change the element CO to CA.
  - (d) Delete the element OS. On this context discuss other ways to delete an element from a list. 3+2+2+3
  
3.
  - (a) Describe different logical operators of Python with suitable examples.
  - (b) Write a code snippet, for creating a list containing first five odd positive integers using the range function.
  - (c) Write a code snippet to extract 'today' from 'today is a funday'. 4+3+3
  
4.
  - (a) Explain with example how indexing and slicing works in Python lists or strings.
  - (b) Explain with example packing and unpacking.
  - (c) Give example how 'zip' works. 4+4+2

**Please Turn Over**

5. (a) Create a dictionary containing name of various fishes and there price per kg Rohu-300, Katla-400, Pabda-500, Tangra-600.  
(b) Iterate over the dictionary to print the key-value pair.  
(c) What are the magic methods in Python? Explain with example. 3+3+4
6. (a) Explain different operators on the data type 'set' with example.  
(b) Give an example of (i) value error, (ii) key error in Python.  
(c) What is the use of '%' operator in Python? 5+3+2
7. (a) Write a Python programme to check whether a given number is Armstrong or not using user defined function.  
(b) Explain Lambda function with a suitable example. 6+4
8. (a) With a suitable code snippet explain how inheritance works in Python.  
(b) Write a code to calculate the factorial of a number.  
(c) Explain what is aliasing. 4+4+2
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