

Hall Ticket Number:

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Code No. : 13165 N (G)

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. III-Semester Main Examinations, Jan./Feb.-2024**Fundamentals of Python Programming (OE-I)**

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

| Q. No. | Stem of the question | M | L | CO | PO |
|----------------------------------|---|---|---|----|----|
| 1. | Find the output for the following code. <pre>a = 4.5 b = 2 print (a//b)</pre> State the reason behind getting the answer. | 2 | 3 | 1 | 2 |
| 2. | What is scope and lifetime of a variable? | 2 | 1 | 1 | 1 |
| 3. | Is a String data mutable? Justify the Statement. | 2 | 1 | 2 | 1 |
| 4. | List any two operations performed on Tuple. | 2 | 1 | 2 | 1 |
| 5. | Develop a dictionary object for 5 students' details such as name, branch, section, phone-no. Consider roll-no as a key. | 2 | 3 | 3 | 2 |
| 6. | What is the difference between Set and Dictionary? | 2 | 1 | 3 | 1 |
| 7. | What are public and private data members. | 2 | 1 | 4 | 1 |
| 8. | List out the different ways to write to a file in python with syntax. | 2 | 1 | 4 | 1 |
| 9. | Can you summarize the main idea of using Python programming? | 2 | 1 | 1 | 1 |
| 10. | Identify the usage of nested tuples. | 2 | 1 | 2 | 1 |
| Part-B (5 × 8 = 40 Marks) | | | | | |
| 11. a) | Differentiate the usage of break, continue and pass statements used in python programming. | 4 | 2 | 1 | 1 |
| b) | Build a python code to calculate the area and perimeter of a circle using a user-defined function. Prompt the user for input. | 4 | 3 | 1 | 2 |
| 12. a) | List any 5 operations on strings (string built-in methods) with syntax and one example each. | 4 | 4 | 2 | 2 |
| b) | Find the output <pre>1. a=[1,2,3,4,5,6,7,8,9] print(a[::2]) 2. arr = [[1, 2, 3, 4], [4, 5, 6, 7], [8, 9, 10, 11], [12, 13, 14, 15]] for i in range(0, 4): print(arr[i].pop())</pre> | 4 | 3 | 2 | 2 |

Contd... 2

| 13. a) | Illustrate the significance of using a Dictionary in python programming. | 4 | 2 | 3 | 1 | | | | | | | | | | | | |
|--|---|----------------------|----------------|-------|----|---------|--------------------------|---------|-----------------------|---------|--------------------------|-----------|-----------------------|--|--|--|--|
| b) | Explain any 4 pre-defined functions related to Set in python? | 4 | 2 | 3 | 1 | | | | | | | | | | | | |
| 14. a) | Explain operator overloading with example. | 4 | 2 | 4 | 1 | | | | | | | | | | | | |
| b) | What are various object oriented programming concepts, explain them with example. | 4 | 2 | 4 | 1 | | | | | | | | | | | | |
| 15. a) | Build a code to calculate the electricity bill based on the given instructions. | 4 | 4 | 1 | 2 | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Consumption in Units</th> <th>Price per Unit</th> </tr> </thead> <tbody> <tr> <td>0-100</td> <td>₹3</td> </tr> <tr> <td>101-200</td> <td>₹100 plus ₹3.50 per unit</td> </tr> <tr> <td>201-300</td> <td>₹200 plus ₹4 per unit</td> </tr> <tr> <td>301-400</td> <td>₹300 plus ₹4.50 per unit</td> </tr> <tr> <td>Above 400</td> <td>₹400 plus ₹5 per unit</td> </tr> </tbody> </table> | | Consumption in Units | Price per Unit | 0-100 | ₹3 | 101-200 | ₹100 plus ₹3.50 per unit | 201-300 | ₹200 plus ₹4 per unit | 301-400 | ₹300 plus ₹4.50 per unit | Above 400 | ₹400 plus ₹5 per unit | | | | |
| Consumption in Units | Price per Unit | | | | | | | | | | | | | | | | |
| 0-100 | ₹3 | | | | | | | | | | | | | | | | |
| 101-200 | ₹100 plus ₹3.50 per unit | | | | | | | | | | | | | | | | |
| 201-300 | ₹200 plus ₹4 per unit | | | | | | | | | | | | | | | | |
| 301-400 | ₹300 plus ₹4.50 per unit | | | | | | | | | | | | | | | | |
| Above 400 | ₹400 plus ₹5 per unit | | | | | | | | | | | | | | | | |
| b) | What are the different ways to create a list? Explain with example. | 4 | 2 | 2 | 1 | | | | | | | | | | | | |
| 16. a) | Dictionaries and Lists are mutable in nature. Justify. | 4 | 3 | 3 | 2 | | | | | | | | | | | | |
| b) | Build a class student and initialize its objects with following variables name, roll no and marks. Define a method stud_details to print the object values. | 4 | 4 | 4 | 2 | | | | | | | | | | | | |
| 17. | Answer any <i>two</i> of the following: | | | | | | | | | | | | | | | | |
| a) | Illustrate the significance of functions with example program. | 4 | 2 | 1 | 1 | | | | | | | | | | | | |
| b) | Build a code in python to remove duplicate elements from a list and then sort the list. Display the final list. | 4 | 3 | 2 | 2 | | | | | | | | | | | | |
| c) | Compare tuple and Dictionary with example. | 4 | 2 | 3 | 1 | | | | | | | | | | | | |

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

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|------|-------------------------------|-----|
| i) | Blooms Taxonomy Level – 1 | 20% |
| ii) | Blooms Taxonomy Level – 2 | 40% |
| iii) | Blooms Taxonomy Level – 3 & 4 | 40% |

Handwritten signature and date: 10/20/20