

Reg No.: _____

Name: _____

0100BE10105022104
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S1 (S, FE) S2 (S, FE) Examination December 2023 (2015 Scheme)

Course Code: BE101-05

Course Name: INTRODUCTION TO COMPUTING AND PROBLEM SOLVING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all Questions.

Marks

- | | | |
|----|---|-----|
| 1 | What is cache memory? | (3) |
| 2 | Differentiate between assemblers, compilers and interpreters? | (3) |
| 3 | Explain the concept of top-down design for solving a problem? | (3) |
| 4 | Write an algorithm to check whether a number is even or odd? | (2) |
| 5 | Give the syntax of chained conditionals in python with examples? | (3) |
| 6 | Distinguish between input() and raw_input() functions? | (2) |
| 7 | Explain the concept of modules in python with example? | (2) |
| 8 | Convert the code below to its equivalent while loop. for count in range(100) print count | (2) |
| 9 | Write a python function to find the sum of numbers between a lower bound and upper bound? | (2) |
| 10 | Differentiate between type conversion and type coercion? | (2) |
| 11 | Write a python program to check whether two strings are equal or not? | (2) |
| 12 | Consider the list marks [25,30,35,40]. Write the code to perform the following 1)insert element 32 at index 2 of list 2)delete element at index 3 | (2) |
| 13 | Write python code to search an element in a list? | (3) |
| 14 | 'Lists are mutable while tuples are immutable'. Justify the statement | (3) |
| 15 | Differentiate shallow equality and deep equality? | (3) |
| 16 | What is pickling? Illustrate with example. | (3) |

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PART B

Answer any four questions. Each question carries 8 Marks

- 17 a) Explain Von Neumann architecture with a neat sketch? (5)
b) Write a note on system software? (3)
- 18 Write the algorithm and draw a flowchart to generate fibonacci series up to n terms? (8)
- 19 a) Distinguish between break and continue statements with suitable examples? (4)
b) Write a python program to find the sum of digits of a number? (4)
- 20 What is recursion? Write a python program to calculate nPr . Use a recursive function fact() to find the factorial of a number. [$nPr = n!/(n-r)!$] (8)
- 21 Write the python program to generate Armstrong numbers between given range? [Armstrong number is a number n whose sum of cubes of digits is equal to n] (8)

PART C

Answer any two full questions. Each carries 14 Marks

- 22 a) What is a dictionary? With an example explain any five dictionary operations in python? (7)
b) Write a python program to add 2 matrices using list? (7)
- 23 a) How exceptions are handled in python? Illustrate with example. (7)
b) Write a python program to reverse a string and print whether its palindrome or not? (7)
- 24 a) Write notes on class attributes and instances with suitable examples for each? (7)
b) Write a python code to read a text file, copy the contents to another file after removing the blank lines? (7)
