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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIRST SEMESTER B.TECH DEGREE EXAMINATION, JULY 2018

Course Code: BE101-05

Course Name: INTRODUCTION TO COMPUTING AND PROBLEM SOLVING

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 2 or 3 marks Marks

1	List any four applications of computer.	(2)
2	Differentiate between assemblers, compilers and interpreters.	(3)
3	Defineoperating system. List any two functions of OS.	(2)
4	Write an algorithm to check whether the given year is leap year or not.	(2)
5	Describe the basic symbols used in flow chart.	(2)
6	Explain Top-Down approach in problem solving.	(3)
7	What do you mean by identifier? What are the rules for identifiers?	(3)
8	Explain different category of range () with example.	(2)
9	Write a program to print the pattern. 1 1 0 1 0 1 1 0 1 0	(2)
10	Explain type conversion and coercion with suitable example.	(2)
11	With an example, explain function with default argument.	(2)
12	Write a Python program to find the sum of series: $[1+x+x^2/2!+x^3/3!+x^4/4!+\ldots\ldots\ldots]$. Use a user defined function to find factorial.	(3)
13	Discuss packing and unpacking in python tuple with example.	(3)
14	Write a Python program to traverse a string in reverse order.	(3)
15	What is the need for self-variable in python class attribute?	(3)
16	What are the different file operations used in python?	(3)

PART B

Answer any four full questions, each carries 8 marks

17	a)	Describe Von-Neumann architecture with a neat sketch.	(5)
	b)	List different type of CPU registers.	(3)
18		Write analgorithm and draw the flow chart for finding the roots of a quadratic equation.	(8)
19	a)	Write a Python program to read a number and print the number in words. (Hint:1230=>One Two Three Zero)	(5)
	b)	Explain any three operators and expressions in Python with suitable examples.	(3)
20	a)	Write a Python program to print prime numbers in a given range.	(4)
	b)	List the advantages and disadvantages of recursion.	(4)

21 a) Write a Python program to read the value of n and r and find nCr (n!/(r!*(n-r)!)). Use a user defined function to find factorial. (5)

b) Write a Python program to find the sum of first n natural numbers using recursion. (3)

PART C

Answer any two full questions, each carries 14 marks

22 a) Write a Python program to read two matrices from console, perform addition and display the resultant matrix. Use list data type for matrix operation. (8)

b) Describe any four string methods in python with example. (4)

c) Discuss the different tuple methods in python with example. (2)

23 a) Create a dictionary of acc.no and balance of n account holders from console. As amount is deposited, the balance should increase and as amount is withdrawn the balance should decrease. Write a program using dictionary datatype in python for the above. (8)

b) Explain exception handling in python with example. (6)

24 a) Illustrate the need of pickling in python with suitable example. (6)

b) Create a class "student" having name, age, roll no, mark of three subjects and total mark as attributes and read (), calculate () and display () as methods. Write a Python program to read details of a student, find total mark and display the details. (8)

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