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PAPER	
CODE	U112-202B(Reg)

F.Y. B. TECH. (SEMESTER - I)

COURSE CODE: [CS10202B]

(PATTERN 2020)

Time: [2Hr]

[Max. Marks: 60]

(*) Instructions to candidates:

- 1) Figures to the right indicate full marks.
- 2) Use of scientific calculator is allowed
- 3) Use suitable data where ever required

Question No.	Question Description	Marks	CO mapped	Bloom's Taxonomy Level
Q.1	<p>i) What is the output of the following addition (+) operator?</p> <pre>a = [10, 20] b = a print(a) b += [30, 40] print(b)</pre> <p>a) [10, 20] [10, 20, 30, 40]</p> <p>b) [10, 20, 30, 40] [10, 20, 30, 40]</p> <p>c) [10, 20] [10, 20]</p> <p>d) [10, 20, 30, 40] [10, 20]</p> <p>ii) What will be the output of the following Python code?</p> <pre>a=[11,5,59,66,67,22,7,9,99,11] a.sort(reverse=True) print(a)</pre> <p>a) [99,67,66,59,22,11,9,7,5] c) [5,7,9,11,22,59,66,67,99]</p> <p>b) [99,67,66,59,22,11] d) [99,67,66,59,22,11,11,9,7,5]</p> <p>iii) What is the output of the following string comparison</p> <pre>print("Programming python" == "PYTHON Programming") print("VIIT" < "viit")</pre> <p>a) True False</p> <p>b) False False</p> <p>c) True True</p> <p>d) False True</p>	[2]	CO1	A
		[2]	CO1	A
		[2]	CO1	A

	<p>iv) What will be the output of the following Python code?</p> <pre> a=[11,22,33,55,[77]] b=list(a) a[4][0]=99 a[2]=66 print(b) a)[11, 22, 33, 55, [99]] c)[11, 22, 33, 55, [77]] b)[11, 22, 66, 55,[99]] d)[11, 22, 66, 55,[77]] </pre> <p>v)What is the output of the following code</p> <pre> T1 = (11, 22, 33, 44, 55, 66, 77, 88, 99, 110) print(T1[-1 : -5 : -2],T1[: : 3]) a)(110,88) (11,44,77) c)(88,66) (11,44,77,110) b) (110,88) (11,44,77,110) d) (110,88,66) (11,44,77,110) </pre> <p>vii)What is the output of the following code</p> <pre> T1 = [55, 35, 45, 55, 2, 12, 23, 55, [70, 9, 10, 23]] print(T1[T1.count(55) + len(T1) - 8], T1.count(T1[3])) a) 2 1 c) 55 3 b) 2 3 d) 45 3 </pre> <p>viii)Which of the following Boolean expressions is not logically equivalent to the other three?</p> <pre> a) not(-7<0 or -6>11) c) not(-7<10 or -7==11) b) -7>=0 and -7<=11 d) not(-7>11 or -7==11) </pre> <p>ix) What will be the output of the following Python code?</p> <pre> if (9 > 5) and (0 < -9): print("hello") elif (9 > 0) or False: print("good") else: print("Try Try") a) hello c) good b) Try Try d) None of the above </pre> <p>x)What will be the output of the following Python code?</p> <pre> i = 1 while True: if i*2 <= 20: if i%5==0: break print(i,end=" ") i += 2 </pre>	<p>[2]</p> <p>[2]</p> <p>[2]</p> <p>[2]</p> <p>[2]</p> <p>[2]</p> <p>[2]</p>	<p>CO1</p> <p>CO1</p> <p>CO1</p> <p>CO1</p> <p>CO1</p> <p>CO2</p> <p>CO2</p>	<p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p>
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	a) 1 2	b) 1 3	c) 1 3 5	d) None of the above			
xi) What will be the output of the following Python code? <pre>for num in range(2,20,2): for i in range(5, num): if num%i == 0: print(num,end=" ") break</pre>	a) 10 12 14 16 18	b) 10 20	c) 10 12 14 16 18 20	d) None of the above	[2]	CO2	A
xii) What will be the output of the following Python code? <pre>if 5>=10: print("India") elif True: print("Mera Bharat Mahan!") if 10>=11: print("Enjoy") else: print("See you Soon..")</pre>	a) Mera Bharat Mahan!	b) Enjoy	c) India	d) None of the above	[2]	CO2	A
xiii) What will be the output of the following Python code? <pre>str1="VIIT Pune" c=0 for x in str1: if(x!="T"): c=c+1 continue else: pass print(c)</pre>	a) 1	b) 8	c) 9	d) 7	[2]	CO2	A
xiv) What will be the output of the following Python code? <pre>min = (lambda x, y: x if x < y else y) min(211*50, 101*51)</pre>	a) 10550	b) 5151	c) 5399	d) None of the above	[2]	CO2	A
xv) What will be the output of the following Python code? <pre>def change(a): b=[x*2 for x in a] print(b) def change1(a): b=[x*x for x in a] print(b) from mod1 import change from mod2 import change1</pre>					[2]	CO2	A

	<p>s=[2,4,6] change1(s) a) [2,4,6] b) [4,8,16] c) [4,8,12] d) [4,16,36]</p>												
Q2	<p>Solve any three out of four</p> <p>a) Write a python code to perform operation on NumPy array. Return array of items by taking last column elements from all rows and array of reverse items of an array. samA= numpy.array([[3,6,9],[4,8,12],[5,10,15]]) Expected Output:</p> <table> <tr> <th>Input Array</th> <th>array of last column elements from all rows</th> <th>array of reverse items of an array</th> </tr> <tr> <td>[[3 6 9] [4 8 12] [5 10 15]]</td> <td>[9 12 15]</td> <td>[[5 10 15] [4 8 12] [3 6 9]]</td> </tr> </table> <p>b) Write a NumPy program to get the following expected output of above samA array values element-wise. Expected Output:</p> <table> <tr> <td>[[1 2 2] [2 2 3] [2 3 3]]</td> <td>[[1 0 1] [0 2 0] [1 1 3]]</td> <td>[[1 1 2] [1 4 1] [2 3 27]]</td> </tr> </table> <p>c) Consider three arrays as below A = [[10,25,40],[11,22,33]] B = [[5],[10]] C = [[[6,12],[5,10]]] Write a python code to perform (A+B) and (A*C). Justify (A+B) and (A*C) Output with the help of broadcasting rules.</p> <p>d) Differentiate list and Numpy array. State examples of 1D, 2D and 3D array each.</p>	Input Array	array of last column elements from all rows	array of reverse items of an array	[[3 6 9] [4 8 12] [5 10 15]]	[9 12 15]	[[5 10 15] [4 8 12] [3 6 9]]	[[1 2 2] [2 2 3] [2 3 3]]	[[1 0 1] [0 2 0] [1 1 3]]	[[1 1 2] [1 4 1] [2 3 27]]	<p>[5]</p> <p>[5]</p> <p>[5]</p> <p>[5]</p>	<p>CO3</p> <p>CO3</p> <p>CO3</p> <p>CO3</p>	<p>A</p> <p>A</p> <p>A</p> <p>A</p>
Input Array	array of last column elements from all rows	array of reverse items of an array											
[[3 6 9] [4 8 12] [5 10 15]]	[9 12 15]	[[5 10 15] [4 8 12] [3 6 9]]											
[[1 2 2] [2 2 3] [2 3 3]]	[[1 0 1] [0 2 0] [1 1 3]]	[[1 1 2] [1 4 1] [2 3 27]]											
Q.3	<p>Solve any three out of four</p> <p>a) Differentiate between write and append mode with example? State the significance of readline(n),seek() and tell() function</p> <p>b) Write a function oddLines() to display odd number lines from the text file. Consider below file - vfriends.txt. Input File : True friendship is what gives us reason to stay strong in life. Having a loving family and all is okay but you also need true friendship to be completely happy. Some people don't even have families but they have friends who're like their family only. Thus, we see having true friends means a lot to everyone.</p> <p>c) Consider above lines for the file vfriends.txt. Write a function count_lines() to count total number of 'friendship' word in the given file and display the total number of lines and total number of words from the file.</p> <p>d) Write a program to count the number of upper-case alphabets present in a text file "vfriends.txt".</p>	<p>[5]</p> <p>[5]</p> <p>[5]</p> <p>[5]</p>	<p>CO4</p> <p>CO4</p> <p>CO4</p> <p>CO4</p>	<p>A</p> <p>A</p> <p>A</p> <p>A</p>									