COLLEGE OF ENGINEERING AND MANAGEMENT PUNNAPRA

Under CAPE | Government of Kerala

Issue No. / Date: 01/26.07.2019 **Revn. No. / Date:00**	**QUESTION PAPER OF ASSIGNMENTS**	**CEMP/ISO/UG/CS/656**

Programme: B.TECH		**Branch: COMPUTER SCIENCE AND ENGINEERING**
Semester: S6		**Academic Year: 2021-22**
Subject Code: CST 362	**L-T-P- Credits: 2-1-0-3**	**Subject Name: PROGRAMMING IN PYTHON**
Assignment Questions: Module 3 and 4		

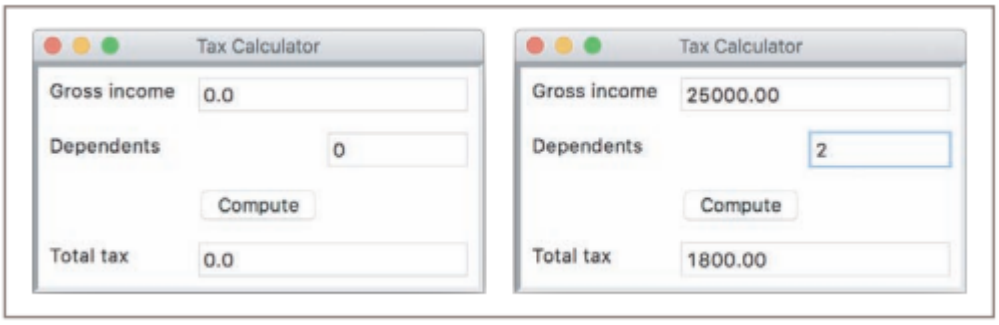
Q1. How can a class be instantiated in Python? Write a Python program to express the instances as return values to define a class RECTANGLE with parameters height, width, corner_x, and corner_y and member functions to find center, area, and perimeter of an instance.

Q2. Write a Python program to add two matrices and also find the transpose of the resultant matrix(Without using numpy)

Q3. Write a Python program to find the quadrant of a point, say (x,y)

Q4. A bouncy program is defined as follows – The program computes and displays the total distance traveled by a ball, given three inputs—the initial height from which it is dropped, its bounciness index, and the number of bounces. Given the inputs write a GUI-based program to compute the total distance traveled.(Hint: For example, if a ball dropped from a height of 10 feet bounces 6 feet high, the index is 0.6, and the total distance traveled by the ball is 16 feet after one bounce. If the ball were to continue bouncing, the distance after two bounces would be 10 ft+ 6 ft +6 ft+ 3.6 ft = 25.6 ft. Note that the distance traveled for each successive bounce is the distance to the floor plus 0.6 of that distance as the ball comes back up. Write a program that lets the user enter the initial height from which the ball is dropped and the number of times the ball is allowed to continue bouncing. Output should be the total distance traveled by the ball.)

Q5. Write a GUI program to implement income tax calculator as below(Hint:Taxable income=grossincome-std deduction-(dependent_deduction*num_dependents)
Total tax=taxable income*tax_rate)



Last Date and Time of Submission: 30/7/2022, 4.00 PM