University of Engineering & Management, Kolkata

Term- I Examination, August - September, 2021

Programme Name: B.Tech in Computer Science **Semester: 3rd**

Paper Name :IT Workshop

Paper Code:PCCCS302

Full Marks: 100 **Time: 3 hours**

GroupA (20 marks)

Answer the following questions. Each question is of 2 marks.

Q. No. 1.

(i) What is type conversion in Python?

(ii) What is the difference between Python Arrays and lists?

(iii) What is Live Editor? Write down the functions to show the floor and ceiling value from a number i.e. x=7.245 in MATLAB.

(iv) In MATLAB, how can we assign a vector with 50 intervals in logarithmic scale? Give example.

(v) What is Android?

(vi) State the use of *new* keyword.

(vii) Which tool is used if you want to rotate a selected object?

(viii) Write two differences between Augmented Reality and Virtual Reality

(ix) What are local variables and global variables in Python?

(x) Differentiate between *plot* and *plot3* functions in MATLAB. Why we use *zeros*?

Group B (30 marks)

Answer the following questions. Each question is of 5 marks.

Q. No. 2. What Is Slicing In Python? Also define a tuple in Python.

Q. No. 3. Mention five benefits of using Python. Explain the same.

Q. No. 4. Write aninstance to the *system clock* information in MATLAB. Differentiate between *.m* and *.mlx* file format.

Q. No. 5.

A. What are line specifications in MATLAB? Give an example. Brief the advantages of MATLAB Toolboxes over different APIs.

or

B. Is A String Immutable Or Mutable In Python? Give an example.

Q. No. 6.

A. Design a code for MATLAB to calculate the approximate circumference of an ellipse with axes a = 7 and b = 17. Also calculate the volume of this ellipse. What is the importance of subplot?

or

B. State the types of Virtual Reality headsets and give example of each.

Q. No. 7.

A. What is Activity? State the syntax of declaring Activity of a class.

or

B. Describe the different types of Augmented Reality.

Group C (50 marks)

Answer the following questions. Each question is of 10 marks.

Q. No. 8. Write Python code to determine whether the given string is a Palindrome or not using slicing.

Q. No. 9. What is *fprintf()* in MATLAB? Give an suitable example to differentiate it with *input().Plot* a line in *(x,y)* domain using of *Marker, MarkerSize, LineStyle, MarkerFaceColor, MarkerEdgeColor* etc. The values of *x* are in linear vector domain *(0, 6*pi)* and values of *y* and *y1* are *sin(x)* and *cos(x)* respectively.

Q. No. 10.

A. Write Python program to find the GCD of two positive numbers. What is the difference between lists and tuples?

or

B. Define *num2str* in MATLAB. Give an example of *num2str* using mathematical conversion like area, volume or height. What is *subplot*? Write a code to show the various ranges of *cosine wave* using *subplot*, where *x* can be considered as a dynamic array.

Q. No. 11.

A. What are the features of Android? What is an open-source operating system? Give examples. What languages are used in building of an Android application?

or

B. Review the following panels in unity: Hierarchy, Scene, Game, Console, and Inspector. Give examples.

Q. No. 12.

A. Differentiate between Magnetometer sensors, Accelerometer sensors and Gyroscope sensors. Give examples.

or

B. Write a program to display the Fibonacci sequences up to nth term where n is provided by the user.