University of Engineering & Management, Kolkata

Term- I Examination, August - September, 2021

Programme Name: B.Tech in Computer Science **Semester:5th**

Paper Name:IT Workshop

Paper Code:PCCCS502

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 the output of print 0.1 + 0.2 == 0.3 in Python?

(ii) How can we assign a vector using matrices in MATLAB? Give example.

(iii) What is "Command Window" in MATLAB? How it's interacting with MATLAB code?

(iv) What is the use of Oculus Rift?

(v) What are class and objects?

(vi) What does 3 ^ 4 evaluate to in Python?

(vii) What is AVD?

(viii) Can you scale a game object in the Game Panel? Explain.

(ix) What is the result of cmp(3, 1)?

(x) What is Workspace? Mention the command to show a message "Welcome" in MATLAB script or command window.

Group B (30 marks)

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

Q. No. 2. Explain the key features of Python? What Is A List In Python?

Q. No. 3. Design a code for MATLAB to calculate the area and circumference of a circle if radius =r, and the volume and surface area of the sphere of radius=r (consider user input method). Why we use *bar3h* function?

Q. No. 4. Write a program in Python to check whether the given number is prime or not.

Q. No. 5.

A. What is *logspace*? Write a script in MATLAB to *plot* the value of *sin(x)* and *cos(x)* in same graph using *legend* (*x* can be considered as vector in linear domain).

or

B. State the lifecycle of an Android application. Show an example.

Q. No. 6.

A. In Gizmos menu, how you can control Light and Camera.

or

B. What are the components of Android? What do you mean by Broadcast Receiver?

Q. No. 7.

A. Explain how you can add texture to a game object.

or

B. Explain the basic data types available in Python with examples.

Group C (50 marks)

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

Q. No. 8. Describe Arithmetic Operators, Assignment Operators, Comparison Operators, Logical Operators and Bitwise Operators in Python with details of examples.

Q. No. 9. Why we use *loglog* function in MATLAB? Write a script to plot the value of *x* and *y* in logarithmic domain (in both axis, positive and negative i.e. x,y or -x,y domain and vice versa). Consider the value of *x* in the range of *(-10, 17)* and value of $y=3^x$. What is *semilogy*?

Q. No. 10.

A. State the differences between JVM and DVM. What is Android emulator? What is the purposeof using setContentView(R.layout.activity_main)?

or

B. What is *polarplot*in MATLAB? How you can differentiate with *compass()*? Write a code to plot the values of *x* and *y* in Polar Coordinate i.e. *(r, θ)* domain, where *r*=logarithmic vector of *(0, 10)* and *θ=sin(2r)*cos(2r)*.

Q. No. 11.

A. Explain the functions of the following tools: rect tool, scale tool, move rotate and scale tool, move tool, rotate tool.

or

B. Explain the Identifiers, Keywords, Statements, Expressions, and Variables in Python programming language with examples.

Q. No. 12.

A. Differentiate between Marker-based Augmented Reality and Marker-less Augmented Reality.

or

B. Write a script in MATLAB to convert an input temperature from degrees Fahrenheit to an output temperature in kelvin. Use *input()* for user input domain. Differentiate between contains() and *extract()*.