Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Mid-term Examination **Semester: Spring - 2017**

Course Code: CSE 334 (DAY) **Course Title: Wireless Programming**

Course Teacher: ALL

Time: 1.5 hours **Full Marks: 25**

N.B . Please read the question carefully. You have to answer either Part-A (Unity) or Part-B (Android)

Part – A (Question 1 is mandatory and then answer any four from rest of five questions)

1. Suppose your game in unity is running in **10fps** and you have attached the following script with a gameObject. Now write down the output and also explain the output briefly. **[5]**

```
using System.Collections.Generic;
using UnityEngine;

public class questiontest : MonoBehaviour {
      private Rigidbody rb;
      void Start () {
            rb = GetComponent<Rigidbody> ();
      }
      void Update(){
            if (rb != null) {
                  rb.isKinematic = !rb.isKinematic;
                  rb.useGravity = !rb.useGravity;
                  Debug.Log (rb.isKinematic);
                  Debug.Log (rb.useGravity);
            }
      }
}
```

2. Write down the differences between following methods - **[2.5+2.5=5]**
   a. **FixedUpdate() and Lateupdate()**
   b. **Awake() and Start()**
3. Consider a sphere is initially scaled by **(X=1,Y=1,Z=1)** and it is colliding with a plane. After each collision, the scale will increase by **1** in all axis and if the scaling reaches into **(X=4,Y=4,Z=4)** then the sphere will be inactive in scene. Now write a script for doing so. **[5]**
4. **public class SpeedController : MonoBehaviour{** **[5]**
   public float speed;
   }
   How can we use the speed variable from other classes that are attached to same object?
5. Explain any **two** of the followings – **[2.5+2.5=5]**
   a. Time.deltaTime
   b. Quaternion.Slerp()

c. Transform.Rotate()

6. Find out errors present in following code and re-write the code to solve those errors [5]

```
using UnityEngine;
using System.Collections;
public class UsingDeltaTime : MonoBehaviour
{
    public float speed = 8.0;
    public float countdown = 3.0f;
    void start(){
    }
    void Update ()
    {
        countdown -= Time.deltaTime;
        if(countdown <= 0.0f)
            light.enable = true;
         if(Input.GetAxis (KeyCode.D ))
            transform.position += new Vector2(speed *
Time.deltaTime, 0.0f, 0.0f);
    }
}
```

Part – B (Answering every question is mandatory)

You want to build an android based mobile application which works as like as convertor (just like currency converter!).By using this converter you can calculate the temperature. Here you are taking a temperature value in edit text box and checking radio buttons and converting into checked temperature. Here is the java code for this application.

Based on the above scenario, answer the followings:

1.

a. If the entry is empty in EditText then the application has unfortunately stooped. What should you need to handle this exception? If modification needed then change the code for running properly. [5]

b. Briefly describe the following code. [4]

```
public class MainActivity extends Activity {

  EditText edtInput;
  RadioButton CtoF,FtoC;
  Button convert;

  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    edtInput=(EditText) findViewById(R.id.editText);
    CtoF=(RadioButton) findViewById(R.id.radioButton);
    FtoC=(RadioButton) findViewById(R.id.radioButton2);
```

```
    convert=(Button) findViewById(R.id.button);
    convert.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {

        Double value=new Double(edtInput.getText().toString());
        if(CtoF.isChecked()){
          value=Convert.CtoF(value);
        }
        else {
          value=Convert.FtoC(value);
        }
        edtInput.setText(new Double(value).toString());
      }
    });
  }
}
public class Convert {
  public static double CtoF(double F){
    return (((F-32)/9)*5);
  }
  public static double FtoC(double C){
    return ((9*C/5)+32);   }
}
```

2.

a. Why show this error (Failure [INSTALL_FAILED_OLDER_SDK]) in android studio? [2]
b. What do you mean by View.OnClickListener() in android? Describe with example code. [3]

3.

a. Draw the Android Activity life cycle and describe all the callback events. [3]
b. Briefly describe main components of android. [3]

4.

a. Suppose we have a xml with LinearLayout ,TextView and Button. Java code is given, now write the output of the following code. [3]
b. If we change the LinearLayout Orientation vertical to horizontal what should be the output? [2]

```
class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    TextView  tv=(TextView) findViewById(R.id.textView);
    LinearLayout  lnlayout=(LinearLayout) findViewById(R.id.ln);
    Button  btn=(Button) findViewById(R.id.button);
    lnlayout.setOrientation(LinearLayout.VERTICAL);
    tv.setText(Html.fromHtml("<h2>Bangladesh Cricket Team</h2><br><p>Al Amin Hussain</p>" +
        "<br><p>Imrul Kayes</p><br><p>Mahmudullah</p><br><p>Mashrafe Mortaza</p>"));
    btn.setText("click");   }}
```