Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **14CS2063** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MOBILE APPLICATION DEVELOPMENT USING ANDROID** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Sketch the architecture of Android operating system. | CO2 | 8 |
| b. | Explain any four building blocks of Android. | CO2 | 12 |
| **(OR)** | | | | |
| 2. | a. | Explain the life cycle of Activity with necessary diagram. | CO2 | 10 |
| b. | Illustrate the usage of onSaveInstanceState() and onRestoreInstanceState(). | CO2 | 10 |
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| 3. | a. | Differentiate between implicit intent and explicit intent with sample code. | CO2 | 10 |
| b. | Write the necessary code for the following.   1. Register ListView with OnItemClickListener interface using setOnItemClickListener() method. 2. Override the following method to toast the name of the item which is clicked.    * public void onItemClick(AdapterView<?> parent, View view, int position, long id) | CO2 | 10 |
| **(OR)** | | | | |
| 4. | a. | Create Request object using the constructor, DownloadManager.Request(Uri uri).  Set the title of this download as "downloading data" using setTitle().  Enqueue the download request using - public long enqueue (DownloadManager. Request request) | CO2 | 8 |
| b. | Create an IntentFilter object and add action, 'DownloadManager.ACTION\_DOWNLOAD\_COMPLETE' using the method, addAction(). | CO2 | 4 |
| c. | Create a subclass for abstract class BroadcastReceiver and override the following method to toast the download completion status when the download is completed.  public void onReceive(Context context, Intent intent){} | CO2 | 6 |
| d. | Register broadcast Receiver using the method, register Receiver (broadcast Receiver, intent Filter); | CO2 | 2 |
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| 5. | a. | Write the necessary XML code to include SearchView in Activity.  Register SearchView with OnQueryTextListener using setOnQueryTextListener() and override the following methods.   1. public booleanonQueryTextSubmit(String query) {} 2. public booleanonQueryTextChange(String newText) {} | CO2 | 10 |
| b. | Write sample Java code to save data using Shared Preferences. | CO2 | 10 |
| **(OR)** | | | | |
| 6. | a. | Show necessary code to write data into SQLite database using getWritableDatabase() and ContentValues object. | CO2 | 10 |
| b. | Demonstrate the data retrieval from SQLite using   1. getReadableDatabase() method and 2. rawQuery(String sql, String[] selectionArgs)   *or*   1. query(String table, String[] columns, String selection, String[] selectionArgs, String groupBy, String having, String orderBy) | CO2 | 10 |
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| 7. | a. | Write necessary Java code to programmatically scan or discover Bluetooth Devices and list the same in INFO log message using the following methods.   1. public static inti (String tag, String msg) 2. public Set<BluetoothDevice>getBondedDevices () | CO1 | 10 |
| b. | Show sample XML/JAVA code to check the network connectivity and load web page in WebView if connectivity is available. | CO2 | 10 |
| **(OR)** | | | | |
| 8. | a. | Write sample code to get an instance of Sensor using SENSOR\_SERVICE. List the available sensors in Logcat using the method, getSensorList(Sensor.TYPE\_ALL). | CO1 | 10 |
| b. | Illustrate the usage of MediaPlayer to play an audio that is available in application’s local raw resource (res / raw) directory. | CO2 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Write sample Java code to programmatically enable ACCESS\_FINE\_LOCATION permission if app level location permission is not enabled. | CO1 | 10 |
| b. | Implement LocationListener interface and override the following method to toast latitude and longitude whenever location has changed.  public void onLocationChanged(Location location) {} | CO2 | 10 |