

**SIXTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING
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Solved question paper (Revision 2015)

Subject: SMART DEVICE PROGRAMMING

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PART A

I.

1. List any two mobile operating systems?

Ans: Apple ios, Android, Windows, blackberry OS.

2. Define the term – Intent?

Ans:An intent is the “glue” that enables different activities from different application.To work together, ensuring that tasks can be performed as though they all belong to one single application.

3. Write the use of Android manifest file?

Ans:Android manifest.xml-This is the manifest file for your Android application.Here you specify the permissions needed by your application, as well as other Features(such as intent-filters,receivers,etc).

4. State the basic difference between TextView and EditText?

Ans:The Text view is used to display text to the user.

Edit text allows users to edit its text content.

5. Write the use of event attributes in HTML?

Ans:Event attributes indicates an event that might happen when the page is loaded

PART B

II.

1. Write the steps to install Eclipse?

Ans: 1.Download Eclipse IDE from its website.

Check on your OS Type,32- bit or 64-bit,and select Linux 32-bit or 64-bit of Eclipse Installer.

2. Run the installer wizard.

Decompress the download archive-

\$tar xf eclipse-inst-linux64.tar.gz

Run eclipse-inst-

\$/eclipse-inst

When the wizard launches,select install item and folder, and finally click INSTALL button.

3.Download the ADT plugin for eclipse.

4.Configuring the ADT plugin

5.Create an Android Virtual Device(AVD).

2. Describe the steps to create Android Virtual Device?

Ans:

- In Android studio, select Tools > Android > AVD Manager, or click the Avd Manager icon in the toolbar-> Create AVD.
- Or ,use the command line to navigate to your SDK's tools/directory and execute:
 - \$android avd
- In Eclipse ADT,Below re the steps to create an AVD from AVD manager graphical interface.
- Go to Windows-> AVD Manager and select Virtual Device.
- Click on New to create a virtual Device,give it some Name and select Target Android platform from the drop downlist .
- Click "Create AVD".

3. Describe the method to pass data between activities using intents with an example?

Ans:It is also common to pass data to an activity.We can use the intent object to pass.The data to the target activity.We can use the intent object to pass the data to the Target activity.

Example:-

```
Intent i=new Intent ("net.learn2develop.ACTIVITY2");
```

```
Bundle extras=new Bundle();
```

```
Extras.putString("Name","Your name here");
```

```
i.putExtras(extras);
```

```
startActivityForResult(i,l);
```

In the Target activity, you use the `getIntent()` method to obtain the intent that started the activity.

You then use the `getExtras()` method to obtain the Bundle object:

```
Bundle extras=getIntent().getExtras();
```

```
If(extras!=null)
```

```
{
```

```
defaultName=extras.getString("Name");
```

```
}
```

4. Describe Table, and Frame layouts of Android?

Ans:Table Layout:-

Groups views into rows and columns.

You use the `<TableRow>` element to designate a row in the table. Each row can contain one or more views. Each view you place within a row forms a cell. The width of each column is determined by the largest width of each cell in that column.

FrameLayout:-

Is a placeholder on screen that you can use to display a single view.

Views that you add to a FrameLayout are always anchored to the top left of the layout.

5. Write a short note on Android menu. Explain any two types of menu?

Ans:Menus are useful for displaying additional options that are not directly visible on the main UI of an application. There are two main types of menus in Android.

Option menu:-Displays information related to the current activity. In android, you

activate the option menu by pressing the MENU key. To activate a context menu you tap and hold on to it.

6. Explain any six font style properties in CSS3?

Ans:You can use several style properties to style the font and text of headlines and other text on your pages, including:

Font-family—The face on the font

Font-size—The size of the font.

Font-weight—Make the font bold or not.

Font-style—Make the font italic or not.

Font-variant—Set small caps

Font—A shortcut style to set or all of the preceding styles in one line.

7. Describe any four advantages of PhoneGap?

Ans:1. Compatible on all platforms.

2. Ease of Development

3. Two fold benefit.

4. Tapping into device's hardware.

5. Strong and robust backend.

6.Open source.

7.Flexibility.

PART C

UNIT I

III.

(a) Explain about Android SDK. Describe the steps to install Android SDK?

Ans:The android software development kit(android SDK) provides all necessary tools to develop android applications.

The android SDK contains tools to create,compile and package Android application.

Android SDK also provides an Android device emulator,so Android application can be tested without a real Android phone.

We can create android Virtual Devices(AVD) via the Android SDK,which run in this emulator.

To download and install latest android APIs and development tools from the internet,android provide us with android SDK manager.Android SDK Manager separates the APIs .tools and different platforms into different packages.

Launch SDK Manager—

You can select which packages you want to download by selecting the checkbox and then click Install to install those packages.

By default SDK manager keeps it up to date with latest APIs and other packages. Gradle can automatically download missing SDK packages that a project depends on.

Once you download the SDK, SDK Build tool, SDK platform tool, SDK platform packages are necessary to run your SDK and others are recommended.

b) Describe any four features of Apple iOS?

Ans:

- Apples App Store contains iOS application.
- The iOS user interface is based upon direct manipulation, using multi touch gestures.
- Interface control elements consist of sliders, switches, and buttons.
- Interaction with the OS includes gestures such as swipe, tap, pinch, and reverse pinch etc.
- Internal accelerometer are used by some application to respond to shaking the device.
- Switching between portrait and landscape mode.

IV.

a) List and explain any four mobile technologies?

Ans:

GSM(Global System for Mobile communication)

GPRS(General Packet Radio Service)

EDGE(Enhanced data rates for GSM Evolution)

UMTS(Universal Mobile Telecommunication Systems)

CDMA(Code Division Multiple Access)

1G,2G,3G,4G,5G,LTE(Long Term Evolution)

b) Describe any four features of Android Studio?

Ans:Messaging—SMS and MMS are available forms of messaging.

Web browser—previously WebKit layout engine,coupled with Chrome's V8 JavaScript engine.

Voice-based fetures.

Multi—touch

Multitasking

Screen capture----Android supports capturing a screenshot by pressing the power .

And home-screen buttons at the same.

Multiple Languge Support.

Accessability—Built-in text—to –speech is provided by Talk back for people with low or no version.

Storage—SQLite, a Light weight relational database,is used for storage purpose.

UNIT II

V.

a) Explain about different components of Android?

Ans:

Activities:-

An activity represents a single screen with a user interface, in short Activity performs actions on the screen.

Services:-

A service is a component that runs in the background to perform long-running operations.

Broadcast Receivers:-

Broadcast Receivers simply respond to broadcast messages from other applications or from the systems.

Content providers:-

A Content provider component supplies data from one application to other to request. Such requests are handled by the methods of the ContentResolver class. The data may be stored in the file system, the database or somewhere else entirely.

b) With a suitable example explain the procedure to link activities using intent?

Ans: When your application has more than one activity, you may need to navigate from one activity to another. In Android, you navigate between activities through what is known as an intent.

It can be used with startActivity to launch an activity, broadcastIntent to send it to .Any interested BroadcastReceiver components, and startService(Intent) or bindService(Intent, ServiceConnection, int) to communicate with a background Service.

Content.startActivity()—The intent object is passed to this method to launch a New activity to do something new.

MainActivityOne.java:

```
Intent i=new Intent(getApplicationContext(),ActivityTwo.class);  
i.putExtra("value1',"one");  
i.putExtra("value2',"Two");  
startActivity(i);
```

VI.

a) Explain about life cycle of activity in android with diagram?

Ans:

→ onCreate()—Called when activity is first created.

→ onStart()--Called when the activity becomes visible to the user .

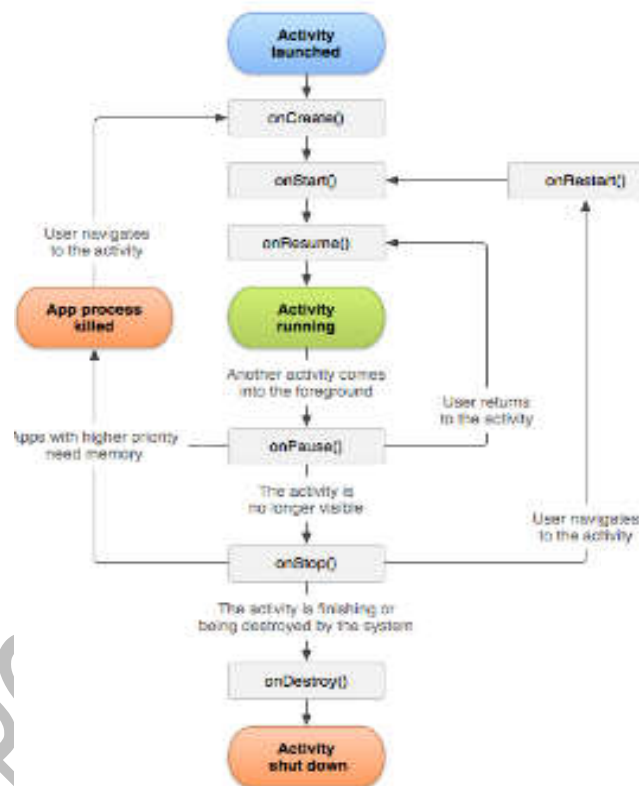
→ onResume – Called when the activity starts interacting with the user.

→ onPause() – Called when the current activity is being paused and the previous activity is being resumed

→ onStop – Called when the activity is no longer visible to the user.

→ onDestroyo – Called before the activity is destroyed by the system (either manually or by the system to conserve memory).

→ on Restart() – Called when the activity has been stopped and is restarting again.



b) Describe the terms (i) Bundle, (ii) Implicit intent, (iii) Explicit intent?

Ans:

A Bundle object is basically a dictionary object that enables you to set data in key/value pairs.

Explicit intent:-Specify which application will satisfy the intent,by supplying .Either the target app's package name or fully-qualified component class name.

Implicit intent:-Do not name a specific component, instead declare a general action to perform, which allows a component from another app to handle it.

UNIT III

VII.

a) Explain about internal data storage and its read and write operations?

Ans:

Internal storage:-The first way to save files in your Android application is to write to the device's internal storage. Files saved to internal storage are private to your Application and other applications cannot access them. When user uninstalls Application, these files are removed.

Create and Write:-

- 1) call `openFileOutput()` with name of file and operating mode. This Returns a `FileOutputStream`.
- 2) Write to the file with `write()`
- 3) close the stream with `close()`

To read a file:-

- 1) Call `openFileInput()` and pass name of file. This returns a `FileInputStream`.
- 2) read bytes from the file with `read()`.
- 3) close the stream with `close()`.

b) Explain about SQLite and database creation using SQLite in Android?

Ans:

SQLite is a opensource Sql database that stores data to a text file on a device. It support all the relational databases features.

Database creation:-

To create a database just call the method `openOrCreateDatabase` with database

Name and mode as parameter. It returns an instance of SQLite database which have to receive in our own object

```
SQLiteDataBasemydatabase=  
openOrCreateDatabase("dbname",MODE_PRIVATE,null);
```

VIII.

a) Describe the uses of Button, Radio button, Image button, and Toggle button?

Ans:

Button, Radio button, Image button, and Toggle button

Button → Represents a push-button widget.

Image Button → Similar to the Button view, except that it also displays an image.

RadioButton → has two states: either checked or unchecked. Once a RadioButton is checked, it cannot be unchecked .

ToggleButton → Displays checked/unchecked states using a light indicator.

b) Explain about content providers and various types of content providers?

Ans:

A content provider is the way to share data across packages.

A content provider behaves very much like a database — you can query it, edit its content, as well as add or delete its content.

Unlike a database, a content provider can use different ways to store its data. The data can be stored in a database, in files, or even over a network.

Browser — Stores data such as browser bookmarks, browser history, and so on

Call Log — Stores data such as missed calls, call details.

Contacts — Stores contact details.

Media Store — Stores media files such as audio, video and images.

Settings — Stores the device's settings and preferences.

UNIT IV

IX.

a) List and explain any six HTML 5 Multimedia Tags for mobile applications?

Ans:

<audio> → Embedded sound files.

<canvas> → Embedded dynamic graphics.

<embed> → To add other technologies that don't have a any specific HTML5 element.

<source> → The source files for embedded sound and video.

<track> → Supplementary media tracks for embedded sound and video.

<video> → Embedded video files.

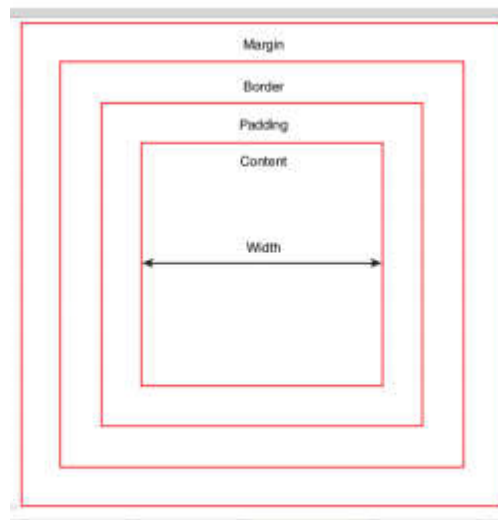
b) How CSS3 can be used for layout ? Explain.

Ans:

The two basic ways to use CSS for layout are floating and absolute positioning.

Floating relies on the CSS property float to place elements with defined widths next to one another, whereas absolute positioning takes elements and places them in precise positions on the page.

To layout your web pages, you must understand how web pages are built. Every element in your document has a square shape, even if you can't see it. A major part of CSS layout surrounds the boxes that are created by the elements. Every box on a web page has a content area, padding, a border, and a margin. With CSS you can affect the width or thickness of all of them.



X.

a) With a suitable example explain how to create a CSS style sheet?

Ans:

To create an external style sheet:

1. Open a new document.
2. Write your styles as in the earlier embedded style sheet example, but without the <style> tag surrounding them.
3. Save that file as a style sheet with a .css extension, such as styles.css.

Here is a style sheet with some additional styles along with the red paragraphs:

```
html, body {  
margin:0;  
padding:0;
```

```
border:0;

}

body {

font: 1em/1.25 Arial, Helvetica, sans-serif;

}

p{

color: red;

}
```

Writing the style sheet document is not enough; you have to also attach it to your web page. To do this, add a <link> tag to the head of your document that points to the style sheet.

For example: <link href="styles.css" rel="style sheet">

b) List and explain any five HTML 5 layout tags for mobile applications?

Ans:

<article> → An independent portion of the document or site.

<aside> → Content that is tangential to the main part of the page or site.

<figcaption> → Caption for a figure.

<figure> → A figure or quotation pulled out of the flow of text.

<footer> → The footer of a document or section.

<header> → The header of a document or section.

<hgroup> → A group of headings.

<nav> → A navigation section.

<section>→A generic section that cannot be defined by one of the above types.

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