1) What is Android?

- Android is an open source operating system that is mainly used on mobile devices like tablets and Smartphones.
- Its operations are mainly based on the Linux kernel system which comprises of rich elements that enable developers to develop and run apps that are able to carry out both basic and advanced functions.

2) What do you know about Intents?

- Intents display messages of notification from within the Android enabled device to the user.
- Intents are used to notify the user when a particular state occurs, and users have the opportunity to respond to the notification.

There are two types of Intents:

a) Explicit Intent
b) Implicit Intent.

3) What is an Explicit Intent?

- Explicit intent specifies the particular activity that should respond to the intent.
- They are used for application internal messages.

4) What is an Implicit Intent?

- In case of Implicit Intent, an intent is just declared.
- It is for the platform to find an activity that can respond to it.
- Since the target component is not declared, it is used for activating components of other applications.

5) What is Orientation?

- Orientation decides if the LinearLayout should be presented in row wise or column wise fashion.
- The values are set using setOrientation()
- The values can be HORIZONTAL or VERTICAL

6) What is adb?

- Adb simply stands for Android Debug Bridge.
- It presents developers with the power to perform shell commands that are remote.
- Its major work is to permit and direct communication towards and from the emulator port.

7) What is the Google Android SDK?

- Google Android SDK is a set of tools required by developers to enable them write apps on Android enabled devices.
- It has a graphical interface which imitates an Android handheld environment, enabling them in testing and debugging their codes.

8) What is Android Architecture?

Android Architecture consists of 4 main elements:

a) Linux Kernel
b) Android Framework
c) Android Applications
d) Libraries

9) Describe the Android Framework.

- The Android Framework is an important aspect of the Android Architecture.
- Here you can find all the classes and methods that developers would need in order to write applications on the Android environment.

10) Differentiate between Activities and Services

- A user can close or terminate activities anytime he/she wishes to do so.
- Services, on the other hand, run behind the scene and are able to act in an independent manner.
- Whether or not there are certain activities being executed, the majority of services run continuously.

11) Describe Activities.

- Activities are what you refer to as the window to a user interface.
- Just as you create windows in order to display output or to ask for an input in the form of dialog boxes, activities play the same role, though it may not always be in the form of a user interface.

12) State the life cycle methods of Android activities?

There are seven lifecycle methods of Android activities. They are:

a) On create()
b) On start()
c) On resume()
d) On pause()
e) On stop()
f) On restart()
g) On destroy()

13) What are the four essential states of an activity?

a) Active: if the activity is at the foreground
b) Paused: if the activity is at the background and still visible
c) Stopped: if the activity is not visible and therefore is hidden or obscured by another activity
d) Destroyed: when the activity process is killed or completed terminated

14) What is the use of an activityCreator?

- An activityCreator is the first step towards the creation of a new Android project.
- It is made up of a shell script that will be used to create new file system structure necessary for writing codes within the Android IDE.

15) What are the different states wherein a process is based?

There are 4 possible states:

a) foreground activity
b) visible activity
c) background activity
d) empty process

16) What is a visible activity?

- A visible activity is one that sits behind a foreground dialog.
- It is actually visible to the user, but not necessarily being in the foreground itself.

17) Tell us something about activityCreator?

- An activityCreator is the initial step for creation of a new Android project.
- It consists of a shell script that is used to create new file system structure required for writing codes in Android IDE.

18) What is the importance of having an emulator within the Android environment?

- The emulator lets developers "play" around an interface that acts as if it were an actual mobile device.
- They can write and test codes, and even debug.
- Emulators are a safe place for testing codes especially if it is in the early design phase.

19) What items are important in every Android project?

These are the essential items that are present each time an Android project is created:

a) AndroidManifest.xml
b) build.xml
c) bin/
d) src/
e) res/
f) assets/

20) What is the importance of XML-based layouts?

- The use of XML-based layouts provides a consistent and somewhat standard means of setting GUI definition format.
- In common practice, layout details are placed in XML files while other items are placed in source files.

21) What are containers?

- Containers, as the name itself implies, holds objects and widgets together, depending on which specific items are needed and in what particular arrangement that is wanted.
- Containers may hold labels, fields, buttons, or even child containers, as examples.

22) What is the importance of Android in the mobile market?

- Developers can write and register apps that will specifically run under the Android environment.
- This means that every mobile device that is Android enabled will be able to support and run these apps.
- With the growing popularity of Android mobile devices, developers can take advantage of this trend by creating and uploading their apps on the Android Market for distribution to anyone who wants to download it.

23) What is ANR?

ANR is short for Application Not Responding. This is actually a dialog that appears to the user whenever an application have been unresponsive for a long period of time.

24) What is the importance of settings permissions in app development?

- Permissions allow certain restrictions to be imposed primarily to protect data and code. Without these, codes could be compromised, resulting to defects in functionality.

25) What do you think are some disadvantages of Android?

- Given that Android is an open-source platform, and the fact that different Android operating systems have been released on different mobile devices, there's no clear cut policy to how applications can adapt with various OS versions and upgrades.
- One app that runs on this particular version of Android OS may or may not run on another version.
- Another disadvantage is that since mobile devices such as phones and tabs come in different sizes and forms, it poses a challenge for developers to create apps that can adjust correctly to the right screen size and other varying features and specs.

26) What is the proper way of setting up an Android-powered device for app development?

The following are steps to be followed prior to actual application development in an Android-powered device:

a) Declare your application as "debuggable" in your Android Manifest.
b) Turn on "USB Debugging" on your device.
c) Set up your system to detect your device.

27) What is a Fragment?

- A fragment is a part or portion of an activity.
- It is modular in a sense that you can move around or combine with other fragments in a single activity.
- Fragments are also reusable.

28) How do you remove icons and widgets from the main screen of the Android device?

- To remove an icon or shortcut, press and hold that icon.
- You then drag it downwards to the lower part of the screen where a remove button appears.

29) What are the core components under the Android application architecture?

There are 5 key components under the Android application architecture:

a) services
b) intent
c) resource externalization
d) notifications
e) content providers

30) What is the APK format?

- The Android packaging key is compressed with classes, UI's, supportive assets and manifest.
- All files are compressed to a single file is called APK.

31) What language does android support to develop an application?

- Android applications has written using the java (Android SDK) and C/C++(Android NDK).

32) What is an android manifest file?

- Every application must have an AndroidManifest.xml file (with precisely that name) in its root directory.
- The manifest file presents essential information about your app to the Android system, information the system must have before it can run any of the app's code

33) What is an Adapter in android?

- The Adapter is used to create child views to represent the parent view items.

34) Define the application resource file in android?

- JSON, XML bitmap etc are application resources.
- You can injected these files to build process and can load them from the code.

35) What are application Widgets in android?

- App Widgets are miniature application views that can embedded in other applications (such as the Home screen) and receive periodic updates.
- These views has referred to as Widgets in the user interface, and you can publish one with an App Widget provider.

36) How do you find any view element into your program?

- Using with findViewById we can find view element.

37) What is drawable folder in android?

- A compiled visual resource that can used as a backgrounds, banners, icons, splash screen etc.

38) Where are lay out details placed? Why?

- Layout details are placed in XML files.
- XML-based layouts provide a consistent and standard means of setting GUI definition format.

39) What do containers hold?

- Containers hold objects and widgets in a specified arrangement.
- They can also hold labels, fields, buttons, or child containers.

40) What is AIDL?

- AIDL is the abbreviation for Android Interface Definition Language.
- It handles the interface requirements between a client and a service to communicate at the same level through interprocess communication.
- The process involves breaking down objects into primitives that are Android understandable.

41) What data types are supported by AIDL?

AIDL supports following data types: -string -List -Map -charSequence and -all native Java data types like int,long, char and Boolean

42) Which dialog boxes are supported by android?

Android supports 4 dialog boxes:

a) **AlertDialog:** Alert dialog box supports 0 to 3 buttons and a list of selectable elements which includes check boxes and radio buttons.
b) **ProgressDialog:** This dialog box is an extension of AlertDialog and supports adding buttons. It displays a progress wheel or bar.
c) **DatePickerDialog:** The user can select the date using this dialog box.
d) **TimePickerDialog:** The user can select the time using this dialog box.

43) Types of notification in android?

a) Toast notification
b) Status bar notification
c) Dialog notification

44) What is the use of WebView in android?

- A WebView is an android UI component that displays webpages.
- It can either display a remote webpage or can also load static HTML data.
- This encompasses the functionality of a browser that can be integrated to application.
- WebView uses the WebKit rendering engine to display web pages and includes methods to navigate forward and backward through a history, zoom in and out, etc.

45) What are the different storage methods in android.

Android offers several different options for data persistence.

a) Shared Preferences:

- Store private primitive data in key-value pairs. This sometimes gets limited as it offers only key value pairs.
- You cannot save your own java types.

b) Internal Storage:

- Store private data on the device memory

c) External Storage:

- Store public data on the shared external storage.

d) SQLite Databases:

- Store structured data in a private database.
- You can define many number of tables and can store data like other RDBMS.

46) What is handler class do in android?

- Handler allows you to send and process message and runnable objects associated with a thread's message queue.

47) State the advantages of Android?

Advantages of Android are as follows:

a) It is an Open source that requires no licensing
b) It is Platform independent that supports Windows, Mac, and Linux platforms.
c) Supports different technologies like camera, Bluetooth, wifi, speech, EDGE, etc.
d) It is a highly optimized virtual machine.

48) What are the tools used to develop an Android app?

Tools used to develop an Android app are as follows:

a) JDK
b) Eclipse +ADT Plugin
c) SDK Tools

49) What is the importance of settings permission in app development?

- Permission allows certain restrictions to be imposed primarily to protect data and code.
- Without this, codes could be compromised, resulting in defects in the actual function.

50) What are few exceptions in Android?

These are the following exceptions in Android:

a) Inflate exception
b) Surface.out of resource exception
c) Surface holder bad surface type exception
d) Window manager took exception.

51) State the code names of Android along with the year when they were brought in?

Following are the code names with year:

1. Astro v1.0 (September 2008)
2. Blender v1.1 (February 2009)
3. Cupcake v1.5 (April 2009)
4. Donut v1.6 (September 2009)
5. Eclair v2.0-2.1(October 2009)
6. Froyo 2.2-2.2.3 (may 2010)
7. Gingerbread 2.3-2.3.7 (December 2010)
8. Honeycomb 3.0-3.2.6 (February 2011)
9. Ice Cream Sandwich 4.0-4.0.4 (October 2011)
10. Jellybean 4.1-4.3.1 (July 2012)
11. Kitkat 4.4-4.4.4 (October 2013)
12. Lollipop 5.0-5.1.1 (November 2014)
13. Marshmallow 6.0-6.0.1 (since October 2015)
14. Nought 7.0-7.1.2 (August 2016)
15. Oreo 8.0-8.1 (August 2017)
16. Pie 9.0 (August 2018)
17. Android 10.0 (September 2019)