

 🔥 Most Important Topics (Exam-Focused Filtering)

1 Kotlin Advanced Features

Lambdas & Higher Order Functions

Extension Functions

Scope Functions (let, apply, run, also, with)

Kotlin idioms (null safety, smart cast, etc.)

👉 VERY HIGH probability in MCQs.

2 Coroutines & Async Programming

Coroutine basics (Job, suspend, launch, async)

Coroutine scopes (GlobalScope, viewModelScope, etc.)

Dispatchers (Main, IO, Default)

Flow vs StateFlow

Async tasks vs Coroutines difference

👉 Extremely important for both MCQs and coding.

3 IPC – Intents & Services

Explicit vs Implicit Intent

Service lifecycle

Started vs Bound Service

Intent data sharing

Binder basics

👉 Very exam favorite topic.

4 Advanced IPC

AIDL concept

Messenger vs Binder

Content Provider CRUD

Bound Service lifecycle

👉 Medium to High difficulty questions.

5 Native Libraries & JNI

What is JNI?

What is .so file?

Why NDK?

Security risk of native code

Frida usage basics

 SET A

(2 Coding Questions + 20 MCQs)

 SET A – Coding Questions

- ◆ Q1 (Basic – Kotlin)

Write a Kotlin function using lambda that takes two integers and performs addition.
Then call it.

- ◆ Q2 (Medium – Coroutines)

Create a coroutine that:

Runs on IO dispatcher

Simulates a network call using delay

Returns data to Main thread

Prints result



SET A – 20 MCQs

1. What is a lambda in Kotlin?

- A) Class
- B) Anonymous function
- C) Interface
- D) Object

2. Which is a higher-order function?

- A) Function returning Int
- B) Function taking another function as parameter
- C) Constructor
- D) Class

3. Extension functions are used to:

- A) Modify original class file
- B) Add functionality without modifying class
- C) Replace class
- D) Inherit class

4. Which scope function returns the object itself?

- A) let
- B) run
- C) also
- D) with

5. let uses which keyword inside block?

- A) this
- B) it
- C) self
- D) obj

6. Coroutine builder for launching new coroutine:

- A) start
- B) launch
- C) execute
- D) asyncTask

7. Which dispatcher is for network/database?

- A) Main
- B) Default
- C) IO
- D) Global

8. Flow is:

- A) Thread
- B) Stream of data asynchronously
- C) Intent
- D) Binder

9. StateFlow holds:

- A) Multiple states
- B) Latest state value
- C) No state
- D) Null only

10. Explicit Intent requires:

- A) Action
- B) Component name
- C) URI
- D) Permission

11. Service lifecycle method called first:

- A) onStart
- B) onCreate
- C) onBind
- D) onDestroy

12. Started service stops using:

- A) finish()
- B) stopSelf()
- C) close()
- D) destroy()

13. AIDL is used for:

- A) UI design
- B) Cross-process communication
- C) Layout
- D) Animation

14. Content Provider performs:

- A) Animation
- B) CRUD operations
- C) Threads
- D) Storage only

15. JNI stands for:

- A) Java Network Interface
- B) Java Native Interface
- C) Joint Native Input
- D) Java New Interface

16. Native libraries use extension:

- A) .jar
- B) .apk
- C) .so
- D) .kt

17. NDK is used to:

- A) Write UI
- B) Write native C/C++ code
- C) Create XML
- D) Debug

18. Frida is used for:

- A) UI testing
- B) Hooking native methods
- C) Design
- D) Storage

19. Messenger works using:

- A) HTTP
- B) Handler & Message queue
- C) Intent only
- D) Flow

20. `async` differs from `launch` because:

- A) Returns Deferred result
- B) Returns Unit
- C) Runs on Main
- D) Stops coroutine



SET B



- ◆ Q1 (Basic – Scope Function)

Create an object of `User` class and initialize it using `apply`.

- ◆ Q2 (Medium – Bound Service)

Create a Bound Service that:

Returns a random number

Activity binds and displays it



SET B – 20 MCQs

1. apply returns:

- A) Block result
- B) Object itself
- C) Unit
- D) Null

2. run returns:

- A) Object
- B) Block result
- C) Unit
- D) this

3. with is:

- A) Extension function
- B) Normal function
- C) Coroutine

D) Intent

4. GlobalScope is:

- A) Lifecycle aware
- B) Not lifecycle aware
- C) Thread
- D) Service

5. suspend function can be called from:

- A) Main only
- B) Coroutine only
- C) Service
- D) Intent

6. Default dispatcher is for:

- A) CPU intensive work
- B) Network
- C) UI
- D) File

7. Flow is cold because:

- A) Doesn't emit
- B) Starts when collected
- C) Freezes

D) Stops

8. Intent.putExtra is used for:

- A) Binding
- B) Data sharing
- C) Animation
- D) Coroutine

9. Implicit Intent uses:

- A) Class name
- B) Action & Category
- C) Binder
- D) Flow

10. Bound Service lifecycle ends when:

- A) App closes
- B) All clients unbind
- C) onDestroy called
- D) stopSelf

11. Binder is used in:

- A) UI
- B) Bound Service
- C) Flow

D) JNI

12. AIDL is needed when:

- A) Same process
- B) Different process
- C) UI design
- D) Layout

13. ContentResolver interacts with:

- A) Activity
- B) Content Provider
- C) Service
- D) JNI

14. JNI allows calling:

- A) XML
- B) C/C++ code
- C) Kotlin
- D) Flow

15. .so file is:

- A) Java file
- B) Shared object native file
- C) XML

D) JSON

16. Frida mainly used in:

A) Security testing

B) UI

C) Layout

D) Kotlin

17. onBind returns:

A) Intent

B) IBinder

C) String

D) Flow

18. Messenger is simpler alternative to:

A) AIDL

B) Intent

C) Flow

D) JNI

19. Coroutine scope controls:

A) Lifecycle of coroutine

B) Layout

C) UI

D) Binder

20. Higher order function example:

- A) println()
- B) filter {} 
- C) class
- D) intent

 SET C

 Coding Questions

- ◆ Q1 (Basic – Extension Function)

Create an extension function for String that checks if string is palindrome.

- ◆ Q2 (Medium – Content Provider)

Create a simple Content Provider supporting:

Insert

Query



SET C – 20 MCQs

1. Extension function cannot:

- A) Access private members
- B) Add new behavior
- C) Be static
- D) Be public

2. Scope functions using this:

- A) let
- B) apply
- C) also
- D) none

3. Coroutine runs sequentially unless:

- A) delay

B) async used

C) launch

D) IO

4. StateFlow is:

A) Hot flow

B) Cold flow

C) Thread

D) Intent

5. launch returns:

A) Deferred

B) Job

C) Flow

D) Binder

6. async returns:

A) Job

B) Deferred

C) Flow

D) Service

7. Service declared in:

A) XML layout

B) AndroidManifest.xml

C) Kotlin only

D) Flow

8. IPC stands for:

A) Internal process call

B) Inter Process Communication

C) Intent process control

D) Input process

9. Explicit Intent used when:

A) Known component

B) Unknown

C) Web

D) Flow

10. Bound Service uses:

A) startService

B) bindService

C) launch

D) flow

11. AIDL file extension:

A) .aidl

B) .kt

C) .so

D) .xml

12. Content Provider identified by:

A) URI

B) Intent

C) Binder

D) Flow

13. CRUD stands for:

A) Create Read Update Delete

B) Copy

C) Reset

D) Run

14. JNI required header file:

A) jni.h

B) kotlin.h

C) android.h

D) binder.h

15. NDK primarily uses:

- A) Java
- B) C/C++
- C) XML
- D) Kotlin

16. Native code increases:

- A) Security always
- B) Performance sometimes
- C) UI
- D) Flow

17. Frida can:

- A) Hook runtime methods
- B) Design layout
- C) Create Flow
- D) Start Service

18. Flow operator example:

- A) map
- B) bind
- C) start
- D) jni

19. Coroutine cancellation uses:

A) cancel() 

B) stop()

C) finish()

D) destroy()

20. Higher order functions improve:

A) Readability & flexibility 

B) Memory usage

C) Storage

D) IPC