Sub Code: SAN401 **ROLL NO……..……..**

SEMESTER EXAMINATION, 2022 – 23

IInd yr B.Tech. – Computer Science and Engineering

Exploring Rx Java in Android

Duration: 3:00 hrs **Max Marks: 100**

Note: - Attempt all questions. All Questions carry equal marks. In case of any ambiguity or missing data, the same may be assumed and state the assumption made in the answer.

Q 1.	Answer any four parts of the following. a) What is ReactiveX? How is it related to RxJava? Explain. b) Explain Observables and Observer with a suitable example. c) What is the difference between Single Observable and Maybe Observable? **d)** What is Subscriber? Explain some major functions/methods used for Subscriber. e) Explain any three base classes to create observables also explain some convenient methods to create observables in Observable class. f) Write down the code for a Single observable and explain the steps to execute this code in RxJava framework.	5x4=20
Q 2.	Answer any four parts of the following. a) What is Completable Observable? Explain with a RxJava code example. b) What is Composite Disposable? Explain its significance in RxJava. c) Explain the process of Filtering operators in RxJava. How is this useful in ReactiveX Programming. d) What do you mean by publishing a message in stream processing. Define Publishing a subjects with a code example. e) What is schedular in RxJava? Differentiate between Computation schedulers and IO schedulers. f) What is Polymorphism in Object Oriented Programming? Write a program in Core Java to implement the concept of polymorphism.	5x4=20
Q 3.	Answer any two parts of the following. a) What is the difference between Publisher and Subscriber? How is RxJava useful in Pub-Sub implementation? b) Explain with a code example Replay subjects and Async subjects. How these are two different entities. c) What is New Thread schedulers in RxJava? Explain with a suitable coding example. Explain its significance in Observer and Observable working in RxJava.	10x2= 20
Q 4.	Answer any two parts of the following. a) Define the complete process of Publishing and Subscribing a message using a flow diagram. Write the RxJava code for publishing and subscribing the message.	10x2= 20

	b) Write a detailed notes on i. Trampoline schedulers ii. From schedulers iii. Connectable Operators c) What is the significance of Operators in any programming language. What are the different types of operators supported in RxJava. Differentiate between Combining Operators, Utility Operators, Conditional Operators.	
Q 5.	Answer any two parts of the following. a) What is the significance of RxJava over Core Java? Explain some use case scenarios where RxJava is preferred over Core Java. RxJava is considered as a real data processing framework. Why? b) What is Inheritance in Java and RxJava? Explain Multilevel Inheritance and Hierarchical Inheritance with a complete Java code. How is it useful in code reusability? c) Explain the relationship between Observable, Operator, Subject and Schedular with suitable block diagram. What is the significance of each of these components	10x2= 20

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