

**National University of Computer and Emerging Sciences, Lahore Campus**



Course:	Software for Mobile Devices	Course Code:	CS-440
Program:	BS (Computer Science)	Semester:	Fall 2019
Duration:	60 Minutes	Total Marks:	30
Paper Date:	8 <sup>th</sup> -Nov-19	Weight	12.5%
Section:	A, B & C	Page(s):	5
Exam:	Midterm-II	Reg. No.	

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**Instruction/Notes:**     *Please solve the exam on the paper. No answer sheets to be attached*  
*Students are allowed a double-sided **double** page cheat sheet.*  
*While writing code, make best effort to write correct and relevant code only. Minor syntactic errors are acceptable and will be ignored during marking but overall concept and approach must be correct.*

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☺ **Believe you can and you're halfway there. Good Luck!** ☺

**Question 1**

**(13 points)**

**Answer the following questions**

**1 – You are developing an application which stores data in its database. You want that data in the database to be accessible to other 3<sup>rd</sup> party applications as well.**

**What is the most appropriate way to do this, how do we do this and why would we use this approach? (3 marks)**

**What:**

**Why:**

**How:**

**2 – You are required to make a service that needs to share some data to other services or activities. What is the most appropriate service to handle this? Why is this the most appropriate and how would you do this? (6 Marks)**

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**What:**

**Why:**

**How (Pseudo Code):**

**3- What is implicit broadcast and explicit broadcast, tell the difference too. Give 1 example of each. (4 Marks)**

**Implicit and Example:**

**Explicit and Example:**

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**Question 2**

**(17 points)**

**A) You are developing an application which has 1 activity and 3 fragments visible on the same layout/ page. (12 Marks)**

- a. Fragment 1 has a EditText field and a Button.**
- b. Fragment 2 has only a TextView.**
- c. Fragment 3 has only a TextView.**

**Whatever the user types in Fragment 1 and tap the button, it should be shown in Fragment 2 and Fragment 3.**

**Q.) What is the most appropriate way to communicate between fragments and How can we do this (write code)**

**What: (2)**

**How: (Activity Code): (5)**

Public class MainActivity extends Activity ?

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**Write Code for 3 “Java” fragments and “*necessary*” code for communication, as well (5)**

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- B) How can you track the number of times your screen's display turns on or off while your application screen is visible? *Code* the appropriate approach to handle such requirement. The code should not contain any memory leaks. Write the code in all necessary files. (5 Marks)