



ENC515 - ADVANCED COMPUTER SYSTEMS ENGINEERING LABORATORY

Time (60 min)

Final Exam

Total: 75 point

Student Name:

Student ID:

Section A (Android Section) (41 points)

Question #1: True or False and **correct the false** (20 points 2 point each).

- (**FALSE**) 1. Android is a high-level programming language.
Correct: OPERATING SYSTEM
- (**TRUE**) 2. If Class B extends A then we can make an object like this (A a = new B ();)
Correct:
- (**TRUE**) 3. Content Providers component class provides data from other applications to their application.
Correct:
- (**TRUE**) 4. R.java Class is a special static class that used for referencing the data contained in your resource file.
Correct:
- (**TRUE**) 5. Widgets can either be individual, or groups of UI elements.
Correct:
- (**FALSE**) 6. We can't use both dynamically and statically for declaring the layouts for your user interface.
Correct: CAN USE BOTH
- (**TRUE**) 7. Layouts main purpose is to control the position of all the child views they contain.
Correct:
- (**TRUE**) 8. Intents in android is a data structure that represents an operation to be performed.
Correct:
- (**TRUE**) 9. Intents filters describe which operations an activity can handle, it is specified either in Android Manifest file or programmatically.
Correct:
- (**TRUE**) 10. We can't add a button in a notification bar nor in toast message.
Correct:

Question #2: Choose the correct answer and fill the table below (multiple choice) (21 points – 3 point each):

1.	2.	3.	4.	5.	6.	7.
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1. What is the name of the folder that contains the R.java file?
 - a. src.
 - b. bin.
 - c. res.
 - d. gen.**
2. What does the src folder contain?
 - a. Image and icon files.
 - b. XML resource files.
 - c. The application manifest file.
 - d. Java source code files.**
3. If Fragment A wants to send string to fragment B the communicator interface abstract method should be implemented in:
 - a. Fragment A.**
 - b. Fragment B.
 - c. Both Fragment A and Fragment B.
 - d. Main Activity.
4. If we want to allow an application to use Internet, then the permissions must be made in:
 - a. Manifest file.**
 - b. R.java file.
 - c. Permission file.
 - d. Access file.
5. `sharedPreferences.getString("name","rajaie")`, `rajaie` returns if:
 - a. The shared memory does not exist.
 - b. The name key does not exist**
 - c. The name key exist but it is empty.
 - d. None of the above.
6. `progressBar` is a:
 - a. widgets**
 - b. legacy.
 - c. component.
 - d. frame animation.
7. The connection to the REST http server is made in:
 - a. `onPreExecute()`
 - b. `onPostExecute()`
 - c. `doInBackground()`
 - d. `ConnectionAsyncTask()`**

Section B (SpringBoot Section) (34 points)

Question #1 answer the questions below: (21 point)

a. In a maven project what is the difference between the Artifact Id and the Package Id. (5 points)

artifactID: serves group-local identifier of your maven project
-> all lower case form

package: name of your root package
-> default is the groupId you entered before

groupId: serves the group identifier of your maven project
-> similar to java packages

version: initial version of your project
-> default 1.0 _ snapshot

b. List of 6 http methods and describe the operation of all them. (12 points)

Method	Operation
POST	CREATE NEW
GET	GET RESOURCE
PUT	UPDATE/REPLACE
DELETE	DELETE RESOURCE
PATCH	UPDATE
HEAD	SAME AS GET, BUT TRANSFER THE STATUS LINE AND HEADER SECTION ONLY
OPTIONS	DESCRIBE THE COMMUNICATION OPTION FOR THE TARGET RESOURCE

c. What is the notation to define that this java class is a service class and other class is a controller class in spring boot? (4 points)

Service: **WILL TAKE CARE OF MOST JOBS, THEY WILL BE CALLED BY CONTROLLERS AND USED TO GET OR MANIPULATE DATA**

Controller: **WILL BE MAPPED BY URL'S TO ACCESS METHOD INSIDE THE CONTROLLER**

MODELS: WILL CONTAIN OUR ENTITIES WHICH REPRESENTS THE RESOURCE IN OUR SYSTEM

Question #2 MYSQL (13 point)

In Springboot we can connect to MySQL (create tables, store data, read data ...etc) give an example for a many to many relations and write down the tables that are needed to be created in the data base.

List all the needed attributes in all tables (you can use UML representation for the tables)