



# UNIVERSITY OF GHANA

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## B.SC INFORMATION TECHNOLOGY, FIRST SEMESTER EXAMINATIONS: 2015/2016

### CSIT 301: MOBILE APPLICATION DEVELOPMENT (3 CREDITS)

**INSTRUCTIONS:** Answer any four (4) questions. Each question carries 25 marks.

**TIME ALLOWED:** TWO AND A HALF (2½) HOURS

1.

(a) List five (5) tasks that can be achieved using the WL.Client API.

(5 marks)

(b) What is JSONStore?

(3 marks)

(c) Explain the following technologies as used in JSONStore.

- a. Document
- b. Collection
- c. Search Field
- d. Query
- e. Other Search Field

(5 marks)

(d) What is encrypted cache? What technology is used in implementing encrypted cache?

(5 marks)

(e) List the API used to achieve the following when using encrypted cache

- a. Create an encrypted cache
- b. Store data in the encrypted cache
- c. Read data
- d. Delete data from the encrypted cache
- e. Change encryption key
- f. Delete the cache
- g. Close the encrypted cache

(7 marks)

**2.**

- (a) State three (3) UI Frameworks that can be used in Worklight. **(3 marks)**
- (b) List four (4) device-related functions provided by the Apache Cordova Object. **(4 marks)**
- (c) Apache Cordova plug-in architecture consists of two parts. Name them. **(4 marks)**
- (d) State two advantages WebView overlay plug-in provides. **(4 marks)**
- (e) What is an adapter? **(2 marks)**
- (f) List five (5) benefits of using a Worklight adapter. **(5 marks)**
- (g) An adapter consists of three (3) different parts. Name them **(3 marks)**

**3.**

- (a) Explain the following:
  - a. Challenge handler
  - b. Authenticator
  - c. Authentication realms
  - d. Security test
  - e. Login Module**(10 marks)**
- (b) Explain how the WebSphere LTPA-based authentication works. **(8 marks)**
- (c) In the Worklight Location Service architecture, state the roles that the Device and Server play. **(4 marks)**
- (d) Name three widgets provided by the mobile browser simulator that can be used in testing an application that uses location services. **(3 marks)**

**4.**

- (a) What are push notifications? **(3 marks)**
- (b) What is the IBM Worklight Application Center? **(3 marks)**
- (c) List and explain the different types of adapters provided in the Worklight framework. **(8 marks)**
- (d) What are Mashups? State the benefits derived from using Marshups? **(6 marks)**

(e) Explain the following push notification terminologies as related to IBM Worklight framework.

- a. Event source
- b. Device token
- c. User ID
- d. Application ID
- e. Poll

**(5 marks)**

**5.**

(a) Name two (2) uses of the Rich Page Editor in the Worklight Studio.

**(4 marks)**

(b) Name the five (5) components of IBM Worklight.

**(5 marks)**

(c) Name five (5) lifecycle events that Cordova object provides support for.

**(5 marks)**

(d) What is an Acquisition policy?

**(3 marks)**

(e) Name the directories where the following files are stored in a Worklight project

- i. The client configuration files
- ii. The server configuration files
- iii. Custom Java code
- iv. Library files

**(8 marks)**