



UNIVERSITY OF GHANA

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B.SC COMPUTER SCIENCE, FIRST SEMESTER EXAMINATIONS: 2017/2018

CSCD 434: MOBILE COMPUTING (3 CREDITS)

INSTRUCTIONS: *Answer any four (4) questions. Each question carry equal marks.*

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

Q1A). State and explain briefly the five components of IBM Worklight

[10 Marks]

Q1B). State any three (3) metadata that is stored in the *application-descriptor.xml* file as used in IBM Worklight.

[3 Marks]

Q1C). Explain briefly the term Mobile Patterns as used in IBM Worklight.

[2 Marks]

Q1D). List five (5) tasks that can be achieved using the Worklight WL.Client API.

[5 Marks]

Q1E). State the Worklight API that is used to achieve the following WL.BusyIndicator functions

I. Display the busy indicator.

II. Hide the busy indicator.

III. Check visibility of the busy indicator

[3 Marks]

Q1F). Name the Worklight APIs can be used to achieve the following

- I. Detect device locale
- II. Detect device language

[2 Marks]

Q2A). Explain briefly the term JSONStore as used in Worklight

[3 Marks]

Q2B). Explain the following technologies as used in JSONStore.

- I. Document
- II. Collection

III. Search Field

IV. Query

V. Other Search Field

[5 Marks]

Q2C). Explain briefly the concept of Encrypted Cache as used in Worklight

[3 Marks]

Q2D). State the technology that is used in implementing encrypted cache

[2 Marks]

Q2E). State any five (5) Encrypted Cache statuses that can be returned when an encrypted cache operation is run.

[5 Marks]

Q2F). With regards to Encrypted Cache, list the API syntax used to achieve the following:

- I. Create an encrypted cache
- II. Store data in the encrypted cache
- III. Read data from the encrypted cache
- IV. Delete data from the encrypted cache
- V. Change encryption key
- VI. Delete the cache
- VII. Close the encrypted cache

[7 Marks]

Q3A). State three (3) UI Frameworks that can be used in Worklight mobile development.

[3 Marks]

Q3B). State three (3) benefits gained from using UI frameworks in IBM Worklight application development.

[6 Marks]

Q3C). List five (5) device-related functions provided by the Apache Cordova Object.

[5 Marks]

Q3D). State two (2) reasons that will call for the creation of an Apache Cordova Plug-in.

[4 Marks]

Q3E). Apache Cordova plug-in architecture consists of two parts. Name them.

[2 Marks]

Q3F). State the main advantage of the WebView overlay plug-in feature available in Worklight mobile development.

[2 Marks]

Q3G). List the three (3) different parts of a IBM Worklight Adapter.

[3 Marks]

Q4A). What is a Worklight adapter?

[3 Marks]

Q4B). List five (5) benefits of using a Worklight adapter.

[5 Marks]

Q4C). State and explain the four (4) main types of Worklight Adapters providing the Worklight API used to invoke each adapter.

[12 Marks]

Q4D). Explain briefly the term Marshups as used in IBM Worklight.

[3 Marks]

Q4E). State two (2) benefits derived from using Marshups

[2 Marks]

Q5A). State one reason why a native application will be use IBM Worklight Native APIs.

[2 Marks]

Q5B). Explain briefly the following as used in IBM Worklight when dealing with security:

I. Challenge handler

II. Authenticator

III. Authentication realms

IV. Security test

V. Login Module

[10 Marks]

Q5C). What are push notifications?

[3 Marks]

Q5D). Explain the following push notification terminologies as related to IBM Worklight framework.

I. Event source

II. Device token

III. User ID

IV. Application ID

V. Poll

[5 Marks]

Q5E). With reference to location services, what is an Acquisition policy as used in IBM Worklight.

[2 Marks]

Q5F). Provide the Worklight SMS notification APIs used to achieve the following:

- I. Send notifications to all user devices
- II. Send notification to a specific device for a specific user subscription
- III. Send notification to a specific device

[3 Marks]