University of Rwanda

College of Science and Technology

School of ICT

Department of Computer and Software Engineering

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Group Members:

No	Names	Registration Number
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Module: Mobile Application Systems and Design

Dart Programming Lab 1 Report

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Dart Programming Lab 1 – Screenshots and Outputs

PART I: Functions

Q1) Functions – Welcome Message

```
=== Part 1: Functions ===

Printing welcome message:

Welcome to school system
```

Figure 1: Welcome Message

Displays: “Welcome to school system”

Q2) Displays: “Welcome to school system”

```
Creating students and teachers:

Student Name: Salomo, Age: 23
```

Figure 2: Create student

Displays student name and age, e.g., “Student Name: Salomo, Age: 23”

Q3) Functions – Create Teacher

```
Teacher Name: Dr. Ange, Subject: Microprocessor
Teacher Name: Dr. Alexandre, Subject: Subject not assigned
```

Figure 3: create teacher

Displays teacher name and subject; optional subject shows “Subject not assigned”

Part II: Constructors and classes

Q4. Classes – Student Constructor

No output

Q5. Object Usage – Student Object

```
=== Part 2 & 3: Classes and Inheritance ===
Student Name: Emmanuel, Age: 20
```

Figure 4: object

PART III: Inheritance

Q6.

Inheritance – Person Class

No output directly, only class definition

Q7.

Inheritance – Student Introduce

```
My name is Emmanuel
```

Figure 5: inheritance

Displays: “My name is Emmanuel”

Part IV: Interfaces

Q8. Interfaces – Registrable

No output directly; only abstract class definition

Q9. Interfaces – Student RegisterCourse

No output directly.

Part V: Mixins

Q10. Mixins – AttendanceMixin

No output; defines attendance counter and function

Q11. Mixins Applied – Mark Attendance

```
=== Part 5: Attendance Mixin ===

Attendance of Emmanuel: 3
```

Figure 6: Mixin applied

Displays: “Attendance of Emmanuel: 3”

Part VI: Collections

Q12.

Collections – List of Students

Displays all students in list with name and age

Q13.

Collections – Map of Students

Displays student IDs and names from the map

```
=== Part 6: Collections ===

List of Students:
- NDAYISABA, Age: 20
- Hakuzwimana, Age: 22
- Mugisha, Age: 21

Map of Students:
ID: S001, Name: NDAYISABA
ID: S002, Name: Hakuzwimana
ID: S003, Name: Mugisha
```

Figure 7: display students

Part VII: Anonymous and Arrow functions

Q14. Anonymous Functions – Print Student Names

Prints student names using anonymous function

Q15.

Arrow Functions – Greeting

Prints greeting message, e.g., "Good morning, Fabrice! Welcome to our school system."

```
=== Part 7: Anonymous & Arrow Functions ===

Anonymous function: NDAYISABA
Anonymous function: Hakuzwimana
Anonymous function: Mugisha
Good morning, Fabrice! Welcome to our school system.
 ===
```

Figure 8: Anonymous and arrow functions

Part VIII: Asynchronous Programming

Q16. Async Functions – Load Students

Loading students...

```
  ===

Number of students loaded: 3
```

Figure 9: Loading students

Q17. Async in Main – Await Students

Already included in Q16 output

Video demonstration:

Click here to see the video

Figure 10: Demonstration video

Part IX: Integration Challenge

Q18. Integration Challenge – Mixins & Inheritance

No code output; handwritten summary available from scanned document.

Q19. Mixins – NotificationMixin

Output:

```
=== Part 9: Notification Mixin ===

Silas registered for Dart Programming
Notification: Silas Successfully registered for Dart Programming
```

Figure 11: NotificationMixin

Q20. Learning Dart & Flutter

No output; handwritten summary available from scanned