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Daffodil International University

Faculty of Science & Information Technology

Department of Software Engineering

Final Examination, Fall 2025

Course Code: SE212

Course Title: Software Requirements Specification & Analysis

Sections & Teachers: HM (A-B), SHN (C-D), RMS (E-H), KBB (I-J), NIR (K-L), ZNM (M)

Time: 2:00 Hrs **Marks: 40**

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

Musu likes capturing everyday moments with her phone. One evening, after snapping a photo of her coffee at a local café, she opens the Noir app. A login screen appears; she enters her username and password and lands on her Feed, where recent posts from people she follows show the username, photo, caption, and the time shared.

Musu taps the "+" button to create a new post. She chooses whether to take a new photo with the Camera or select one from her Gallery. After picking her coffee photo, a simple Crop screen lets her adjust it to a square format. Next, a Filter screen appears; she quickly scrolls through a few options and selects the "Classic" filter. On the Caption screen, she types "Weekend brew #DhakaCoffee," adds the location "Dhanmondi," and taps Share. Noir uploads the post and, if successful, shows a "Posted!" message and returns her to the Feed, where her new photo appears at the top. If the network is weak or offline, the app saves the post as Pending and shows a small retry icon; the post uploads automatically once the connection is restored, or Musu can manually retry from a simple error message.

Later, Musu browses her feed, opens another user's profile, and taps Follow so their photos start appearing in her feed. She uses the Search feature to look up "#coffee" and explores a grid of matching posts. Curious about how her profile looks to others, she visits her Profile screen, which shows her photos in a grid, along with her profile picture, bio, and follower/following counts. She updates her profile picture and rewrites her bio to mention her love of coffee photography.

Concerned about privacy, Musu goes to Settings and switches her account from public to private. A short message explains that only her followers will be able to see her posts. She also turns on push Notifications for likes and comments so she doesn't miss feedback on her photos. At the end of the day, she logs out from the app, knowing her photos are shared with the audience she chooses.

1.	a)	*Explain the system requirements of Noir described in the scenario by preparing a Software Requirement Specification (SRS) table.*	[Marks-10]	CLO-2 Level-2

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2.	a)	**Prepare** a use case description for the "Create new post" functionality described in the scenario.	[Marks-8]	CLO-3 Level-3
	b)	**Apply** some suitable requirement prioritization technique to organize the requirements of this system. Demonstrate the rationale behind the prioritization with examples from the scenario.	[Marks-7]	
	c)	**Construct** a Requirement Traceability Matrix (RTM) for BuildSync, showing how each requirement links from source to design, implementation, and testing.	[Marks-8]	

DayFlow is a mobile app that helps people plan their day in one place. After opening the app, the users see a main screen that shows today's tasks, calendar events, and quick notes. A small timeline at the top highlights morning, afternoon, and evening, with important items pinned so they stand out.

Users can create "day plans" for different areas of life, such as "Study," "Work," or "Home." Inside each plan, they add tasks with due times, short descriptions, and simple tags like "urgent" or "nice to do." DayFlow connects to the phone's calendar, so events like meetings or classes appear automatically. Users can set gentle reminders, such as "remind me 15 minutes before," and choose whether they want a quiet banner or a loud alert.

For collaboration, users can invite a friend or family member to a shared plan, for example for a group project or shared chores. They can see who added or finished a task and send short comments under each item. A small progress bar shows how much of the plan is complete. Finished days are stored in a history view so users can look back at what they got done last week.

3.	a)	**Analyze** the scenario and create a prototype demo outline for the DayFlow mobile app, highlighting major UI components and functionalities.	[Marks-7]	CLO-4 Level-4