|  |  |  |
| --- | --- | --- |
| **Q1** | a) | What is the meaning of analysis? What is the purpose of the analysis phase of the SDLC? |
| **Answer Box:** 03 Marks |
| b) | ABC Retail, a medium-sized retail company, is experiencing rapid growth in both its online and brick-and-mortar operations. Currently, they use multiple disjointed systems for managing customer interactions, sales, and marketing campaigns. These systems are outdated, inefficient, and do not communicate well with each other, leading to data silos and inefficiencies. ABC Retail wants to implement a new, integrated Customer Relationship Management (CRM) system to streamline operations, improve customer service, and increase sales. The new system should centralize customer data, provide real-time analytics, and support multi-channel marketing efforts.  Evaluate if the current IT infrastructure can support the new CRM system. Determine if upgrades or new hardware are required. Assess how well the new CRM can integrate with existing systems (e.g., e-commerce platform, POS systems). |
| **Answer Box:** 05 Marks |
| c) | In terms of organizational feasibility and adoption, what might an analyst do to convince these clerks to adopt and use the new technology? |
| **Answer Box:** 03 Marks |
| **Q3** |  | XYZ Food Delivery is an online platform designed to streamline the process of ordering food from local restaurants and having it delivered to customers' doorsteps. The system involves multiple actors including customers, restaurant staff, delivery drivers, and system administrators. Each actor interacts with the system in different ways to achieve their goals.  To illustrate the interactions between different actors and the online food delivery system, create a use case diagram.  **Actors:**  Customer: A user who registers on the platform, browses menus, places orders, makes payments, tracks their order, and provides feedback.  Restaurant Staff: Staff members at the partner restaurants who manage the menu, accept and prepare orders, and update order statuses.  Delivery Driver: Individuals responsible for picking up orders from restaurants and delivering them to customers.  System Administrator: Personnel who manage the overall system, including user accounts, system settings, and generating reports.  In building the major use cases, we follow the four-step process: Identify the use cases, identify the steps within them, identify the elements within the steps, and confirm the use cases. |
| a) | Draw the respective Use case diagram for above scenario |
| **Answer Box:** 10 Marks |
| b) | Select one use case out of above diagram and write the use case description for that. |
| **Answer Box:** 10 Marks   |  |  |  |  | | --- | --- | --- | --- | | Use case name: | | ID: | Priority : | | Actor |  | | | | Description |  | | | | Entry conditions |  | | | | Exit conditions |  | | | | Flow of events |  | | | | Special requirements |  | | | |
| c) | Draw an activity diagram for the given the scenario of an online food delivery system at XYZ Food Delivery, where customers, restaurant staff, delivery drivers, and system administrators interact with the system to perform various tasks, create an activity diagram that illustrates the workflow from a customer placing an order to the delivery being completed. The diagram should include the following steps:   1. Customer registers and logs into the system. 2. Customer browses menus and places an order. 3. Customer makes a payment for the order. 4. Restaurant staff accepts the order and updates its status to "preparing." 5. Restaurant staff updates the order status to "ready for pickup." 6. Delivery driver logs in, views delivery assignments, and picks up the order. 7. Delivery driver updates the delivery status to "en route." 8. Delivery driver confirms the delivery of the order to the customer. 9. Customer rates and reviews the order.   Ensure to capture the relationships between use cases such as generalization, inclusion, and any exclusion where applicable. Use swimlanes to represent different actors (Student, Apartment Owner, System) involved in the activities. |
|  | **Answer Box:** 10 Marks |
| d) | Imagine you are required to draw a class diagram for the above scenario |
| i. | List the primary classes that would be essential for the system based on the use case descriptions provided in Q3. |
| **Answer Box:** 03 Marks |
| ii. | Define at least three attributes for each of the primary classes. Consider the essential information each class should encapsulate. |
| **Answer Box:** 06 Marks |
| iii. | Identify at least two methods for each class that represent key operations or behaviors. Explain the purpose of each method. |
| **Answer Box:** 06 Marks |

**Instructions to Candidates**

1. **Answer all questions.**
2. All answers must be written within the designated spaces provided next to each question. Under no circumstances should answers extend beyond these specified areas.
3. **No additional sheets or pages are to be used for answers. Students are strictly required to confine their responses to the cages allocated for each question.**
4. Do all of your rough works in the rough sheets and provide only the answer in the space given.