# PLACEMENT TEST – INTERN BA

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**Important Instructions**

- Please fill the above table of your details accurately.

- Answer all the questions given (1-6).

- Provide all the answers in the extra papers given.

- You will be given 1 hour only.

- Usage of internet and any other helping materials including calculators is prohibited.

- **Marks will be allocated out of 100.**

**Answer all the questions provided.**

I.      What is "Story Points" in Agile?

A story point is a measure used in agile project management and development to evaluate the difficulty of implementing a specific user story, which is an abstract measure of the effort required. A story point is a number that informs the team about the difficulty level of the story. Difficulty may be connected with the complexities, risks, and efforts involved.

Story point estimation is typically performed during product backlog grooming sessions with development and testing teams reviewing the product backlog.

(5 marks)

II.      Write a user story to schedule a Medical Appointment in an Online Channeling App.

User story for online chanelling app

1. First of all user need to install or setup the app on his preferred device.
2. Then user needs to register with the app using his email as the username and setting up a unique password.
3. Then user will get a user account to access the app functions.
4. User can use this app for two scenarios.
         i. schedule an appointment for himself.
         ii. schedule an appointment for someone else.
5. For either scenarios user has to click for shedule an appointment option.
5. Then he will be presented with a form to filled.
6. That form will gather information like name of the patient, Age, Address, prefered city and contact number.
7. After submitting the filled foirm he will get drop down menu with search bar to select the area of expertise for doctors.
8. He can search like "Cardiologist" and when he type the first letters always there will be suggessions which user can use to fill the search word.
9. Then he can select his preferred area with the dropdown menu.
10. After selecting the area he will be presented the doctors list sorted and arranged by city which he previously submitted with the available medical centers.
11. Then he can select the doctor he wishes and then he will be presented with the list of medical centers with available reservations for that doctor.
12. Then he can select preferred medical center and he will get an appointment number and he will be moved to payment option where he can pay through the app or he can visit the mediacentric for payment.
13.According to his preference if he chose to pay through app, he will be directed to payment gateway
14.If he wishes to pay physically, he will get a softcopy of appointment through his email.
15. After he pay through app he will also get softcopy of appointment through his email marked as paid.

(15 marks)

III.      "The teams following the Agile Methodology can always perform better than the teams

following other Software Development Methodologies." State your arguments about this statement whether you accept it or not.

Agile is an iterative approach in which projects are broken into shorter sprints. Unlike the traditional approach, agile spends less time on upfront planning and prioritization because it is more flexible in terms of change and specification development.

Agile techniques, as opposed to traditional SDLC approaches, are precise and customer-friendly. Throughout the project development phases, users/customers have the option to make changes. The following are some of the benefits of Agile over traditional development methodologies:

- Even if the problem statement/business need and solution are predefined, they can be changed at any time.
- Requirements/User Stories can be delivered on a regular basis, increasing the likelihood of mutual understanding between developer and user.
- The solution can be determined by segmenting the project into separate modules and delivering them on a regular basis.
- The user is given the option to review solution modules in order to decide whether the business need is being met, assuring excellent outputs.
- It is feasible to design components that can be reused.
- Documentation is given less emphasis, resulting in less effort and money spent.
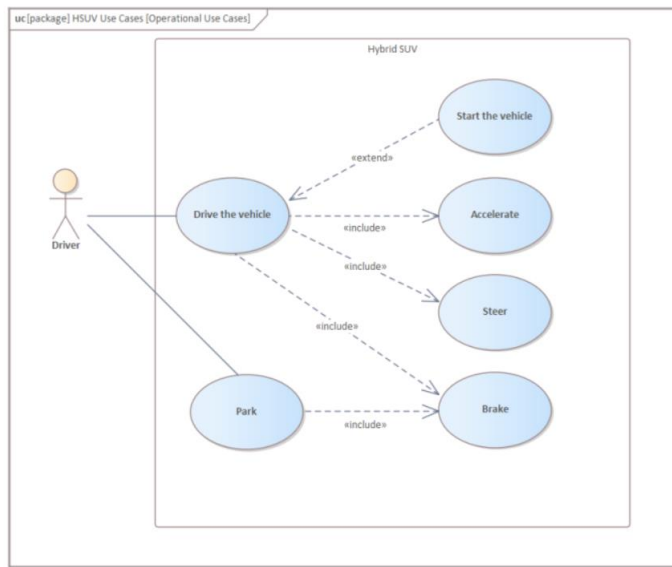
(15 marks)

IV.     List down the UML Diagrams widely in use. Briefly explain the listed diagrams and give one example of any of them.

Behavioral UML Diagram

- Activity Diagram- The most significant UML diagrams for business process modeling are undoubtedly activity diagrams. It is commonly used in software development to represent the flow of various activities and processes. These can be both sequential and concurrent.

- Use Case Diagram - Use Case diagrams are used to assess the high-level requirements of a system. These needs are expressed in several use scenarios. This UML diagram has three key components:
    o  Use cases represent functional needs; a verb describes an action.
    o  Actors interact with the system; an actor might be a person, a company, or an internal or external program.
    o  Straight arrows illustrate the relationships between actors and use cases.
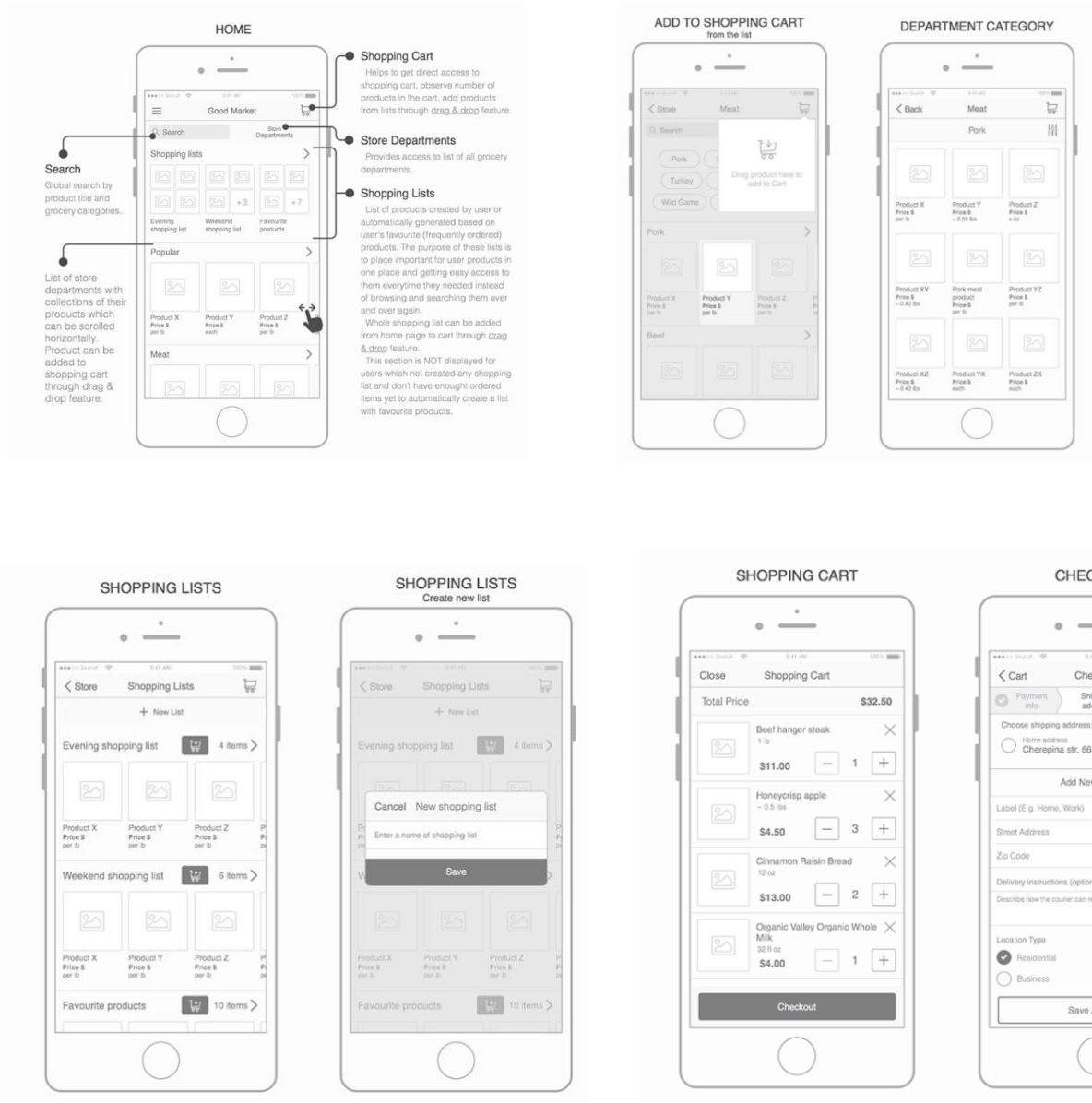  This is an example for user case diagram about driving a vehicle.

- Sequence Diagram - These diagrams, which are based on the modeling of interactions between objects in a specific time sequence, are used to provide an overview of how the various pieces of a system interact through time and how activities are carried out.

Structural UML Diagram

- Class Diagram - Class diagrams are used by software engineers to depict and describe the classes, characteristics, and methods in a system. Class diagrams allow developers to create a static view of a system before it is built.
- Object Diagram - Object diagrams, yet another more concrete type of diagram, are concerned with representing a system at a certain point in time. The object diagram depicts real-world instances of classes as well as their relationships.

- Component Diagram - The many components of every software system might be made of other, smaller components. A component diagram depicts how these different software components interact with one another and their interdependence.

- Deployment Diagram - A deployment diagram, as opposed to dealing with abstract aspects in a system, simulates the physical deployment of the system's components, or nodes. It is concerned with real-world elements like as servers and computer resources, with their interactions specified through connection and APIs.

- Package Diagram - Packages in UML are hierarchical collections of items that allow for the controllable structuring of diverse system components. Packages, for example, can allow the developer to represent the various levels of code utilized in the system and how these different layers interact.

- Profile Diagram - Profile diagrams allow for the extension of a UML model through the use of stereotypes. These stereotypes can be given to certain UML elements or connectors and used to model specific domains.

(20 marks)

V.  Draw wireframe for the user journey of Shopping Cart functionality to use in an online shopping mobile app consisting all needed functionalities. Also, briefly explain the functional elements of the wireframe.



VI.  *"Mr. Groot is the son of a farmer who lives in Taluhnia. He observed that the farmers live in Taluhnia facing difficulties in bringing their agro-products on time to the nearby towns.*

*Since Mr. Groot is a Software Engineer and interested in Entrepreneurship, he has an idea to develop a mobile app to connect the farmers with vehicle owners who own delivery vehicles in nearby areas to deliver the agro products to the needed places as expected."*

Suggest a suitable business model with the most required features/modules to consider with the mobile app. State some unique features separately to simplify and enhance the end-user experience to facilitate them to use this app without much struggles.

Business model for agro-product business

1. We can use delivery model like uber erats to supply the agri products to needed stores. The supplier will be the farm and the clients will be stores. Delivery guys who have the
 vehicle will be the transporters.
2. First of all we need to estimate the average amount of products which can produce by the farm.
3. Then need to identify stores who wish to get the agri products from that particular farm.
4. Then need to do some calculations to estimate whether there is supply surplus of deficit.
5. According to the demand wee need to consider how much vehicles will be need to transport the products to the cities.
6. We have to consider the carriage capacity, fuel efficiency, distance to the towns and how many turns for a day like wise.
7. After doing the research we can implement a web application where drivers can register by submittiong their vehicle information and available times.
8. The store keepers in towns also should update the system predicting that they will need this much products for next week.
9. Then the farmer can choose available vehicle at that moment considering other expenses such as fuel and deliver charges and give the order to him.

(25 marks)