Question 1 [total = 50 points] 50

A) List three advantages of agile (or evolutionary) software development methods compared with Waterfall model?

B) Consider the following Scenario or Project description: [12 points]

You are a project manager required to develop a mobile app, called FindMe, that aims to continually connect children with their parents: 1) to enable parents send messages to their children and vice versa 2) to enable parents send fun quiz questions to their children and vice versa and 3) to enable parents and children find each others' locations. The mobile app needs to be aimed for parents and children older than 7 years old, and provide children friendly graphical user interface for answering and creating quiz questions. It assumes the use of a smart mobile with GPS capability.

You are a project manager assigned the responsibility to develop the above project, how would you manage the development of the above system? Particularly

B.1) Which software process model (or models) would you use or apply? If you intend to apply more than model, indicate at what stage or for which component of the project each model is applied. Justify your answer.

B.2) To develop a children friendly graphical user interface, what software development technique would advise using?

                                                              [18 points]

C) Consider the following software requirements:

                                                              [20 points]

R1.0: The system shall allow inventory manager to search inventory items based on item number, item name, part of the item description, or category name. ⟹ Functional.

R2.0: The search results of inventory items shall be displayed to system user in no more than 5 seconds.

R3.0: The system shall be easy to be operated by normal users and shall not take a long time to train new users to use it

R4.0: The system should allow inventory manager to view inventory and financial reports.

Choose the **most correct answer** from the following:

1) The above requirements describe a set of :
    A. User requirements
    B. System requirements.
    (C) Both A and B
    D. None of above.

2) The functional requirements are:
    A. R1.0, R2.0
    B. R1.0, R2.0, R4.0
    (C.) R1.0, R4.0
    D. None of above

3) The non-functional requirements are
    A. R1.0, R2.0
    (B.) R2.0, R3.0
    C. R1.0, R2.0, R4.0
    D. None of above

4) The non-verifiable non- functional requirements are:
    A. R3.0   1.0
    B. R2.0
    (C.) R3.0
    D. R4.0

5) The mandatory (must have) requirements are
    A. All of them.
    B. R1.0, R2.0
    (C.) R1.0, R2.0, R3.0
    D. None of above.

Question 2 [total = 50 points] 41

A) Describe the common fundamental (or core) activities in all software development processes?

12 [12 points]

B) What is the difference between focus group interviews and ethnography (observation) techniques when doing requirements elicitation?
    When would you recommend the use of each? Provide one example for each.

15 [18 points]

c) Consider the following description or scenario:

Rami would like to take a vacation from work next week. He opens the internet browser and navigates to the website of his company, logs in, and selects "new vacation" option. The system displays an empty vacation request form, along with the number of remaining vacation days for Rami. Rami makes sure that the total remaining vacation days covers his intended vacation period and enters the following information: vacation start date, end date, and a vacation note, then selects "submit" option. The system checks the form completed fully and displays a notification that the vacation request has been successfully submitted. The HR Manager, named Ahmad, receives a message alerting him that a vacation request has been submitted. Ahmad, who reviews and approves vacation requests, opens the system and approves Rami's request. Rami, then after, receives an email notification that his vacation request has been accepted.

1. List system actors from above scenario and describe each briefly.
2. Draw a use case diagram based on above scenario, showing the identified Actors and their respective use cases.