NED University of Engineering & Technology

Online Spring Semester Examinations - 2020

Seat No. _____ SE-18034 _____ Batch _____ 2018 _____

Course Title _____ Software Requirement Engineering _____ Course Code _____ SE-208 _____

Enroll No. _____ NED/1674/2018 _____ Date 24th September, 2020 _____

PLEASE READ THESE INSTRUCTIONS CAREFULLY

1) Download and print this cover page (separately for each exam).

2) Fill the above mentioned particulars before attempting the questions.

3) Students are not allowed to use red or green ink. Solve the questions on A4 size paper using blue or black pen ONLY.

Question No.	Award	
	First Examiner/ Internal	Second/ External Examiner/ ERC
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
Total in figures		
Total in words		

First / Internal Examiner's Signature

Second / External Examiner's / ERC Signature

Answer # 01

Quality Attributes Of Requirement Document:-

Following are the quality attributes of requirement document.

(1) Correct:-

The requirement document is considered to be correct if the requirements written in it are correct and actually required for system.

(2) Unambiguous:-

If requirements written are unambiguous and doesn't have multiple interpretation, then document is unambiguous. Using structured language (instead of natural language) can make requirements unambiguous.

(3) Complete:-

The requirement document is said to be complete if,

   (a) It describes everything system is supposed to do.

   (b) It describes predicted input, predicted output (in response of input), and as well as constraints of system.

   (c) The formatting of document is done correctly.

   (d) The document doesn't include any "TO BE DETERMINED" sections.

(4) Verifiable:-

If there is finite cost effective process for the requirements in document, then SRS is considered verifiable.

(5) Consistent:-

The requirement document is consistent if, there are no conflicts in requirements as well as no subset is included for individual requirements.

(6) Understandable By Customers:-

The document must be easy to understand for customers and users.

(7) Modifiable:-

SRS is considered modifiable if the style and structure of document is easy to modify

(8) Traced:-

If the document include references to the earlier documents then it is traced.

(9) Traceable:-

If each individual requirement of document can be referenced, then document is traceable. There are few techniques to make document traceable;

(a) Numbering every paragraph.

(b) Assigning unique number to every requirement.

(c) Using convention string for describing requirement.

(10) Design Independent:-

If then doesn't imply any specific algorithm or architecture, then it is design independent.

(11) Annotated:-

The document is considered annotated if it provides guidance to development organization.

(12) Concise:-

The document must be concise and must describe all characteristics of system.

(13) Organized:-

The requirements within document must be easy to locate.

Importance:-

The above quality attributes are very important for requirement document because we can manage our SRS very efficiently and easily through these attributes. Through these attributes, document will become easier to read and understand, not only for customers but also for developers. These attributes play vital role in organizing system and its requirements.

Answer 2

Importance Of Prioritization:-

When there are hundreds of requirements, decision-making becomes much more difficult, therefore requirement prioritization is very important. Sometimes, it is not given which requirements must be prioritized so many aspects are taken into consideration for making final decision.

Helpful In Conflict Resolution:-

Requirement prioritization is very helpful in conflict resolution because it is helpful in tradeoff between requirements, settlements can be made in scheduling, budgeting and other things. Also, we can establish and optimize our system according to market's needs and benefits. We can prioritize requirements in such a way that it is in best interest of everybody.

Aspects Of Prioritization:-

The most common aspects on the basis of which a requirement is prioritized are importance, cost, time, penalty and risk. When prioritization is based on single aspect then it is quite easy but when considering more than one aspect, it is sometimes very hard to prioritize requirement because often

one aspect can impact on other aspect. so, it is very important to have an idea of impact of different aspects on each other as well as on development. Following are some of the aspects.

(1) **Importance :-**
It tells the importance of requirement stated by stakeholder.

(2) **Penalty :-**
It tells the penalty if requirement is not completed in given time.

(3) **Cost :-**
It tells the estimated cost for fulfilling the requirement.

(4) **Time :-**
It tells the time under which requirement has to be fulfilled.

(5) **Risk :-**
It tells both internal and external risks for the requirement. Risk management is used to cope up with all these.

(6) **Volatility :-**
It tells volatility of requirement but it is often considered a risk.

Answer#3

Software Requirement Specification For College Registration System:-

1) Preface:-

This document, Software Requirement Specification (SRS) is created for college registration system as described in the introduction of this document.

2) Introduction:-

College Registration System are vital part of any college. The student admission is one of the important activities. A poor admission system can crumble a college because of mistakes or slow response time.

College Registration System is the software which is helpful for students as well as for administration and its respective departments. This project is facilitating students by registration and also by showing relative important details for college.

3) Glossary:-

(a) LOGIN: Here, we can login to our account.

(b) REGISTER: Here, we can create our account.

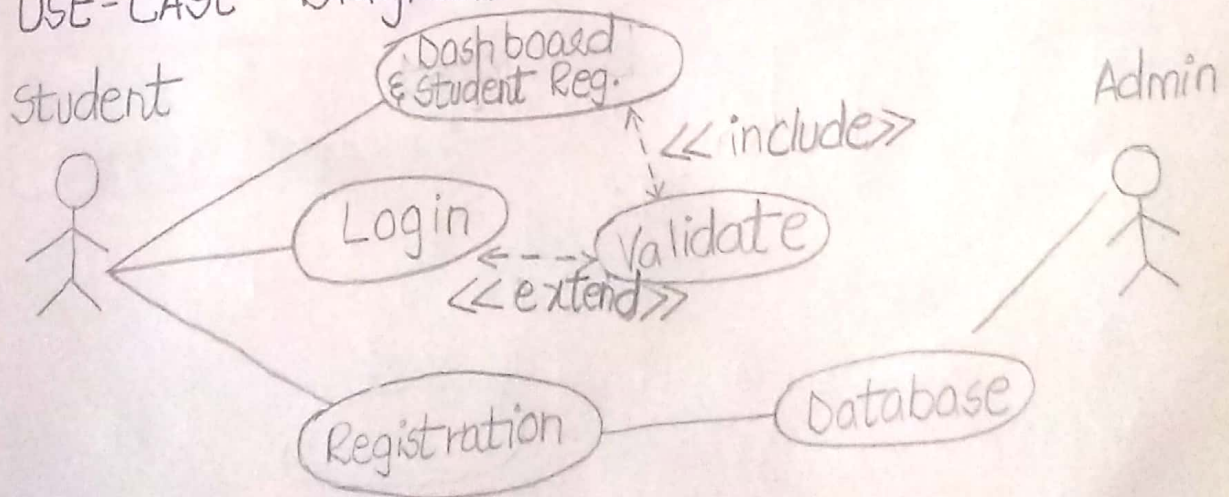# 4) Specific Requirement:-

(a) FUNCTIONAL REQUIREMENTS:-

(i) A student can register himself/herself by providing relevant details.

(ii) A student can login to his/her account.

(iii) A student can see his/her details on dashboard.

(iv) Admin can have details of all users and can also manipulate it.
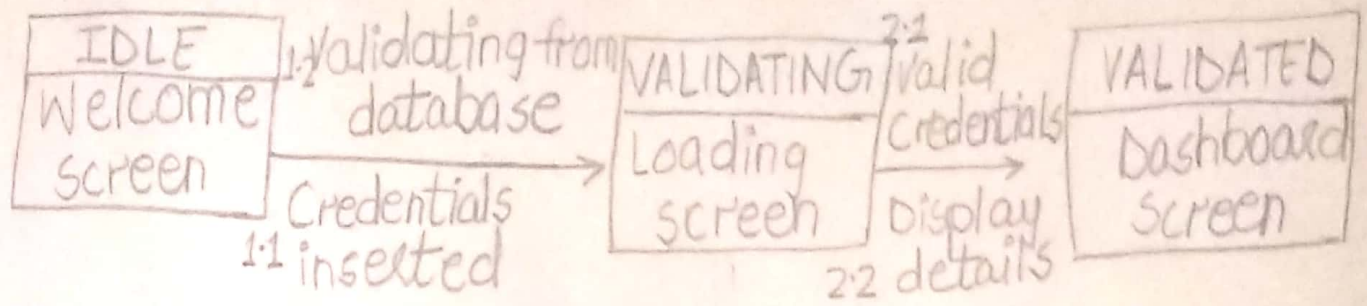
(b) NON-FUNCTIONAL REQUIREMENTS:-

(i) Respose time should be less than 2 sec.

(ii) An email will be sent to user on registration.

(iii) Database must have capacity to store 15,000 records.

(iv) Application must have load-balance which can be achieved by deployment on cloud.
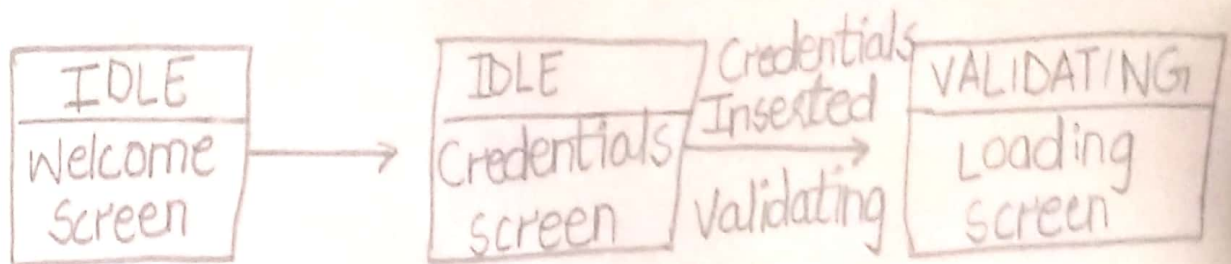
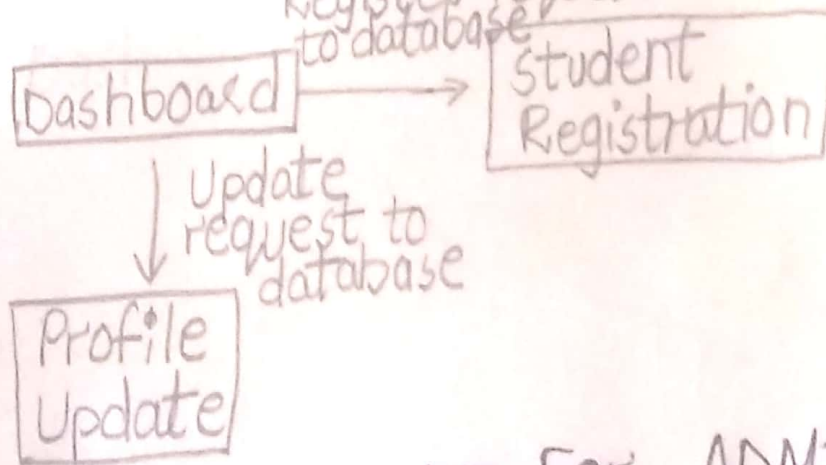# (5) Appendices:-

(a) USE-CASE Diagram:-

(b) STATE CHART Diagram:-

| IDLE Welcome Screen | 1. Validating from database | VALIDATING Loading screen | 2.1 Valid Credentials | VALIDATED Dashboard Screen |

1.1 Credentials inserted

2.2 Display details

STATE CHART Diagram For WELCOME SCREEN:-

| IDLE Welcome Screen | → | IDLE Credentials screen | Credentials Inserted Validating | VALIDATING Loading screen |

STATE CHART Diagram For DASHBOARD:-

Register request to database

| Dashboard | → | Student Registration |

Update request to database

| Profile Update |

STATE CHART Diagram For ADMIN:-

| IDLE Credential Screen | Credential inserted Validating from database | VALIDATED Dashboard | User data Manipulation | SUCCESS |