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Section C

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Write a detailed note on requirement analysis and specification.

Ans

The Software requirement are description of features and functionalities of the product.

The requirements can be obvious or hidden, known or unknown expected or unexpected from clients point of view.

H The Requirement analysis and Specification process

1. Requirement Gathering
2. Software Requirement Specification
3. Software Requirement Validation

After the feasibility study of the product. The first step come under process is

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1. Requirement Gathering - If the feasibility report is positive towards undertaking the project, the next phase with the gathering of the requirements from the user-analysis and engineers communicate with the client and end-user to know their ideas on what the software should provide and which features they want to include.

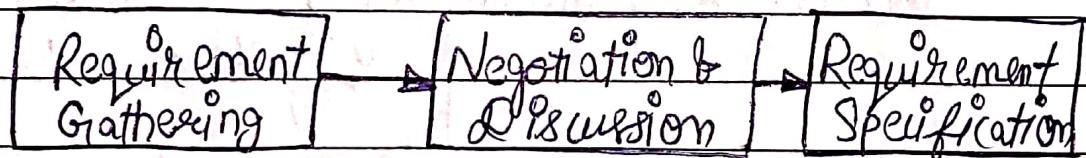
2. Software Requirement Specification

SRS is a document created by system analyst after requirements are collected from various stakeholders. SRS defines how the intended software will interact with hardware, external interface, speed of operation, response time of system etc.

3. Software Requirement Validation

After the requirement specifications are developed, the requirements mentioned in the SRS document are validated.

Requirement analysis process can be depicted using the following diagram.



Requirement analysis techniques

(1) Interviews :- Oral Interviews, Written Interviews, One to one Interviews

(2) Survey :- Organization may conduct surveys among various stakeholders.

(3) Questionnaires :- A document with predefined set of objective question are handed to the stakeholders.

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b) Compare :-

Functional Requirements

Non functional Requirements

① A functional requirement defines a system or its component.

② It specifies "what should the software system do?"

③ If a mandatory

④ Defined at component level

① A non-functional requirement defines the quality attribute of a software system.

② It places constraints on "how should the software system fulfill the functional requirements"

③ If it is not mandatory

④ Applied to system as a whole

Section B

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Q. Why we need feasibility study?

A. Feasibility Study in Software Engineering is a study to evaluate feasibility of proposed project or system.

Types of feasibility = Study :-

1. Technical feasibility

2. Operational feasibility

3. Economical feasibility

4. Legal feasibility

5. Schedule feasibility

Need of Feasibility Study :-

1. Feasibility Study is a most important stage of Software Project Management process, it gives a conclusion whether to go ahead with proposed project or not.

2. Feasibility Study helps in

helps in identifying risk factors involved in developing system.

- 3 It is conducted in order to objectively uncover the strength and weaknesses of a proposed project.
- 4 It can help to identify and access the opportunities, threats present and resource required for project.
- 5 A feasibility study is part of the initial design stage of the project.

Q) Difference between Coupling and Cohesion

Coupling	Cohesion
① Coupling is the concept of inter module.	② Cohesion is the concept of intra module.

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|--|--|
| ② Coupling represent the relationship between modules. | ② Cohesion represent the relationship within module. |
| ③ Increasing in coupling is avoided for software. | ③ Increasing in cohesion is good for software. |
| ④ Coupling represents the independence among modules. | ④ Cohesion represents the functional strength of module. |
| ⑤ Whereas loosely coupling gives the best software. | ⑤ Highly cohesive gives the best software. |
| ⑥ In Coupling, modules are connected to other modules. | ⑥ In cohesion, module focuses on the single thing. |

Section A

- 1Q What is Modularity?

Ans Modularity is a property that describes how replaceable the components or modules of a system are. Modules can be removed, replaced or upgraded without affecting other components.

Ex - most desktop computers are modular because they have easily removable and upgradable parts.

Q Mention two Impacts of SE?

1) The production of software requires software engineer using techniques such as specification, design, implementation, testing and maintenance.

2) The influence was determined by examining publications, oral reports and the time sequence between significant advances in the software engineering.

and programming language design

89 Write a short note on &

UML - Unified Modeling Language (UML) is a standardized modeling language enabling developing to specify, visualize, construct and document artifacts of software system. Thus, UML makes these artifacts scalable, secure, and robust in execution. UML is an important aspect involved in object oriented software development.

90 Interpret about software design.
 The goal of the design phase is to transform the requirements specified in the SRS document into a structure that is suitable for implementation in some programming language. Two distinctly different approaches are :-

- (1) Traditional design approach
- (2) Object oriented design approach