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Q.1(A)

(a)

Stakeholder	Category	Responsibility
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① User	client / Interactor	User can be a student or a teacher or any other staff members using library materials, accessing different facilities given.
② Librarian	Indirect	Manages the whole library. Keeps tracks of student/faculty entering & visiting time. Also keep tracks of avoidance of any kind of misbehavior.
③ Library Admin Super Authority or head of University	domain	It basically maintains a sufficient amount of resources to the library to run in a smooth way. Also helps in funding and other kind of services like good infrastructure, capable staff, etc.

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(W)

Q.1 (B1)

- It is true that user requirements are given more importance as compared to system requirement in initial stage.
- But it is also worthy to give equal importance to system requirement due to reasons like -

- (+) System requirements are not incorporated with the particular software.
- It is basically used to run the software in a proper environment.
- If they are not distinguished then user might get confused about it b/c they are more of a complex thing.
- Also the system requirements need much of a abstraction as compared to user req.
- A separate section in the documentation must be incorporated.

Q.1 (C)

Three Non-functional requirements are as follows.

- (1) As soon as the user enters his/her credential details the validation should be as soon as possible and also ticket should be fetched in nearly seconds.

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- (2) The UI interaction with the user should be in a smooth fashion i.e. buffering should be minimum.
- (3) When the navigation should show where the user is in the system and also proper labelling for what activities he/she is performing.

Q.2 (A)

- As clearly stated that the requirements are
- (1) Time bound much less
 - (2) A small featured software to be published.
 - (3) User interaction

so keeping above factors in mind "Incremental Model" would be a great choice

(B) As it is mentioned that

- (1) Large project
- (2) Already Available component's
- (3) More complex

Here "Prototype" would be a good choice as we have already made that particular thing which can be displayed to user.

"Component" Based approach would also be applicable as some parts are already available.

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✓

(C) Types of Software for which spiral Model is suitable are

- (1) Risky
- (2) High-end projects.
- (3) Needs are not clear at starting.
- (4) Less expensive.
- (5) Project complexity is much higher.

No, the no. of loops are not fixed, basically it determines different phases of development. As the time passes away it gets more & more broader.

(D)

(1) Incremental Model:

Prescriptive b/c the needs are well mentioned and order also.

(2) RAD

Prescriptive and the reason remains same as above.

(3) spiral Model:-

Evolutionary b/c the name itself suggest that as spiral goes on increasing similarly these model evolves with time.

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(Q2)

(4) Prototype model.

Evolutionary b/c an early stage model is

released in the market and as per the new requirements functionalities are added.

Q.3(A) The two risk that may be classified is

(1) Requirement risks:-

→ suppose a user requirement is such that the processing of transaction should be much faster than it may lead to more unsecure transaction.

(2) People:-

→ sometimes it might happen that the people recruited are corrupted or unskilled. Thus it may lead system into risk.

User Requirement (1) can be categorized as a high end risk b/c user's authentication are in a great harm.

People (2) it may be categorized into moderate risk as it may not that much affect users as compared to system.

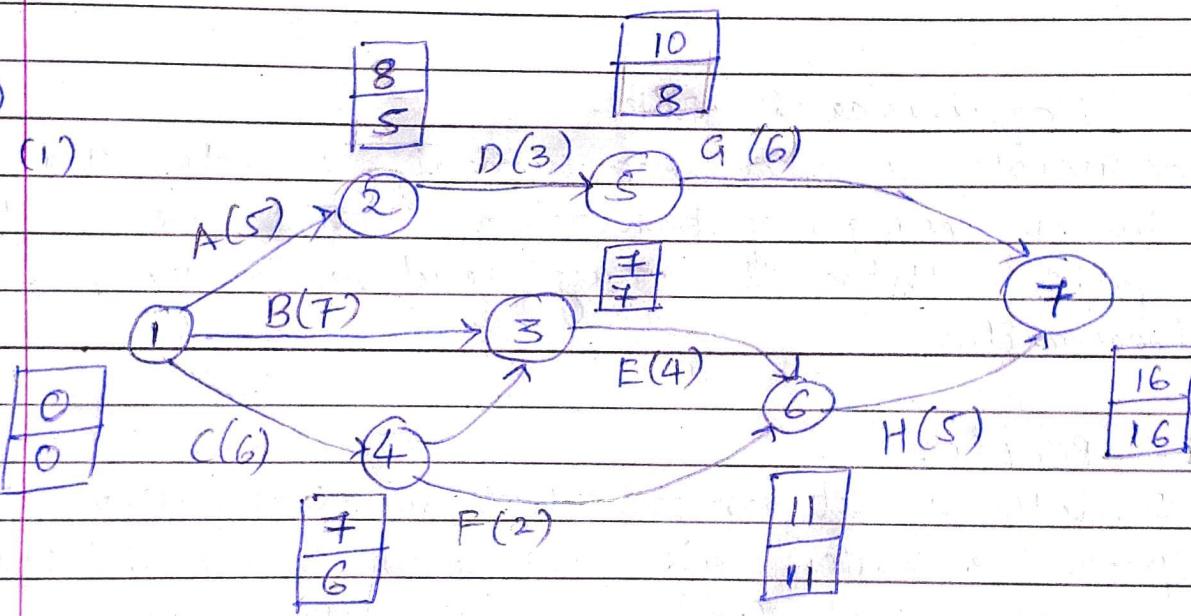
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For (1) issue we can plan an alternative which provides more security as well as faster transformation.

For (2) a good recruiting team should be assigned for better filtering of candidates.

⑧

Q.3(B)



(2) Least time = 16 days

(3)

$A \rightarrow 3$

$G \rightarrow 2$

$B \rightarrow 0$

$H \rightarrow 0$

$C \rightarrow 1$

$D \rightarrow 2$

$E \rightarrow 0$

$F \rightarrow 3$

Flood Time

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g. Critical path = $[B \rightarrow E \rightarrow H]$

(4) If E delays by 3 days then project completion also takes three days as E is in critical path

If F is delayed by 3 days then we can clearly see from floating time that F has three extra days so ~~not~~ no delay.