SE - Assignment -2   9525   ESHANK   BELE   TE COMPS -B

1> Risk assesment in the context of software projects is process of identifying, analysing & priovitizing potential risks & uncertainities that would affect the successful completion of a software development project. These risks can change range from technical issues & research projects contraints to changes in project requirements, market conditions & external factors. The primary goal of risk assesment is to proactively manage & mitigate these risks to ensure the projects objectives are met.

Following are key reasons to why risk assesment is essential :

i> Early problem identification → spot problems before the escalate

ii> Efficient resource allocation - allocate resources effectively.

iii> Cost Control : identifying & managing risks can help control project

iv > Schedule management - maintaining project timelines

v > Quality assurance - address quality risks to ensure the final
          product meets expectations.

vi> Reputation management - protect organisation's image & avoid
                          legal issues by managing risks.

vii> Stakeholder communication - keep clients, management & team informed
                      about potential challenges to set realistic
                      expectations.

viii> Increasing project success rate: projects that manage risks
          effectively have a better chance of success.

27 Software configuration management (scm) is a set of practices & process used to systematically, control, organise & track changes in software projects. Its primary role is to ensure integrity, stability & quality of a software system throughout its development lifecycle. Here's how Scm contributes tracks & manages different versions of software.

i) Version control: Scm tracks different versions, ensuring the right version is used, reducing errors.

ii) Change management: organises changes, ensuring through testing & documentation to prevent defects.

iii) Traceability: Scm links changes to specific requirements, enhancing, understanding & meeting project requirements.

iv) Configuration management: it controls all software components, preventing configuration - release error in each release.

v) Parallel development - Scm allows multiple developers to work concurrently without conflicts, maintaining code quality.

vi) Automated build & deployment: integration with Scm ensures consistent, error-free software building & development.

vii) Backup & recovery: Scm provides backup & recovery mechanisms to protect aginst data loss.

viii) Auditing: Tracks changes for auditing & regulatory compliance, crucial in regulated industries to ensure quality standards.

3> Formal technical reviews (FTR) are systematic, well structured processes for reviewing & evaluating various aspects of software development, such as requirements, design, code & documentation. FTR play a crucial role in ensuring software quality and reliability through following mechanisms.

→ Knowledge sharing

→ Compliance

→ Requirement validation

→ Risk mitigation

→ Consistency

→ Quality improvement

→ Process enhancement

4> A formal walkthrough in the context of a software project is a structured & systematic process for reviewing & evaluating software artifacts. The primary goal is to identify issues, ensure quality & improve the overall project.

Steps are:

Preparation → Scheduling → Conducting → Resolution → Documentation ⌐

Feedback ← Closure ← Follow ups ⌐

5> Considering software reliability is crucial when analyzing potential risks in a project for several reasons.

a) User expectations : reliable software, meets user expectations.

b) Business Impact : software failures can have significant financial implications.

c) Reputation : software safeguard's the image of organisation.

d) Maintenance costs : reducing long-term support expenses

e) Safety of critical applications

f) Regulatory compliance

g) Data integrity

h) Market competition

i) Customer satisfaction

j) Project Success: