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TE COMPS B.

Assignment 2

1) Risk assessment in context of software projects is the process of identifying, analyzing & prioritizing potential risks and uncertainities that could affect the successful completion of software development project. These risks can range from technical issues and resource constraints to changes in project requirements, market conditions and external factors. The primary goal of risk assessment is to proactively manage and mitigate these risks to ensure projects objectives are met.

Following are key reasons as to why risk assessment is essential in software projects.

1) Early problem identification - spot problems before they escalate
2) Efficient Resource allocation - allocate resources effectively.
3) Cost control - identifying & managing risks helps projects costs.
4) schedule management - maintains project timelines.
5) Quality assurance - address quality risks to ensure product meets expectations.
6) Increasing success rate - Projects that manage risks have better chance of success.
7) Reputation management - Protect organization's image & avoid legal issues by managing risks.

2] Software Configuration Management (SCM) is set of practices & process used to systematically control, organize and track changes in software projects. Here is how SCM contributes to project quality.

1) Version control : SCM tracks and manages different versions of software ensuring right version is used.

2) Traceability : SCM links changes to specific requirements, enhancing understanding and meeting project requirements.

3) Configuration management : It controls all software components, preventing configuration release errors in each release.

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

5) Backup & Recovery : SCM provides backup & recovery mechanisms to protect against data loss.

6) Auditing & Compliance : Tracks changes for auditing & regulatory compliance crucial in regulated industries to ensure quality & compliance 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.

1) Error detection & prevention
2) Knowledge
3) Compliance
4) Requirement validation
5) Risk Mitigation
6) Consistency
7) Quality Improvement
8) Enhanced process

4) A formal walkthrough in context of software project is a structured and systematic process for reviewing and evaluating software artifacts such as code, design, documents or requirements. The primary goal is to identify issues, ensure quality and improve the overall project. The following is step by step process for conducting a formal walkthrough.

1. Preparation : Preparing the artifact & assembling a review team.
2. Scheduling : scheduling a meeting and setting an agenda.
3. Conducting the walkthrough : conducting a structured review where team members discuss and document issues.
4. Resolution : Resolving issues and assigning responsibilities for improvements.
5. Documentation : Documenting the review.
6. Follow up : After the review, follow up on assigned actions.
7. Closure : closing review process once all issues are addressed.
8. Feedback & continuous improvement : Gathering feedback to improve feature reviews.

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

a) User expectations
b) Business Impact
c) Reputation
d) Maintenance costs.
e) Safety of critical applications
f) Regulatory compliance.

g) Data integrity
h) Market compliance
i) Customer satisfaction
j) Project success.