Software Quality Assurance

Software Quality Assurance (SQA) is simply a way to assure quality in the software. It is the set of activities which ensure processes, procedures as well as standards suitable for the project and implemented correctly.

Software Quality Assurance is a process which works parallel to development of a software. It focuses on improving the process of development of software so that problems can be prevented before they become a major issue. Software Quality Assurance is a kind of an Umbrella activity that is applied throughout the software process.

Software Quality Assurance have:

1. A quality management approach
2. Formal technical reviews
3. Multi testing strategy
4. Effective software engineering technology
5. Measurement and reporting mechanism

Major Software Quality Assurance Activities:

1. **SQA Management Plan:**
   Make a plan how you will carry out the sqa through out the project. Think which set of software engineering activities are the best for project.check level of sqa team skills.
2. **Set The Check Points:**
   SQA team should set checkpoints. Evaluate the performance of the project on the basis of collected data on different check points.
3. **Multi testing Strategy:**
   Do not depend on single testing approach. When you have lot of testing approaches available use them.
4. **Measure Change Impact:**
   The changes for making the correction of an error sometimes re introduces more errors keep the measure of impact of change on project. Reset the new change to change check the compatibility of this fix with whole project.
5. **Manage Good Relations:**
   In the working environment managing the good relation with other teams involved in the project development is mandatory. Bad relation of sqa team with programmers team will impact directly and badly on project. Don’t play politics.

Benefits of Software Quality Assurance (SQA):

1. SQA produce high quality software.
2. High quality application saves time and cost.
3. SQA is beneficial for better reliability.
4. SQA is beneficial in the condition of no maintenance for long time.
5. High quality commercial software increase market share of company.
6. Improving the process of creating software.
7. Improves the quality of the software.

Disadvantage of SQA:

There are a number of disadvantages of quality assurance. Some of them include adding more resources, employing more workers to help maintain quality and so much more.

Quality Assurance v/s Quality control

Quality Assurance	**Quality Control**
Quality Assurance (QA) is the set of actions including facilitation, training, measurement, and analysis needed to provide adequate confidence that processes are established and continuously improved to produce products or services that conform to specifications and are fit for use.	**Quality Control (QC)** is described as the processes and methods used to compare product quality to requirements and applicable standards, and the actions are taken when a nonconformance is detected.
QA is an activity that establishes and calculates the processes that produce the product. If there is no process, there is no role for QA.	**QC** is an activity that demonstrates whether or not the product produced met standards.
QA helps establish process	**QC** relates to a particular product or service
QA sets up a measurement program to evaluate processes	**QC** verified whether particular attributes exist, or do not exist, in a explicit product or service.

QA identifies weakness in processes and improves them	**QC** identifies defects for the primary goals of correcting errors.
Quality Assurance is a managerial tool.	Quality Control is a corrective tool.
Verification is an example of QA.	Validation is an example of QC.