**Standards can be defined as a set of obligatory requirements established by a general agreement and maintained by a recognized body to impose a uniform disciplined practice.**

### ISO 27000 Series

It is the family of **information security standards** which is developed by the International Organization for Standardization and the International Electrotechnical Commission to provide a globally recognized framework for best information security management.

**It helps the organization to keep their information assets secure such as employee details, financial information, and intellectual property.**

The need of ISO 27000 series **arises because of the risk of cyber-attacks** which the organization face. The cyber-attacks are growing day by day making hackers a constant threat to any industry that uses technology.

The ISO 27000 series can be categorized into many types. They are-

ISO 27001- This standard allows us to prove the clients and stakeholders of any organization to managing the best security of their confidential data and information. This standard involves a process-based approach for establishing, implementing, operating, monitoring, maintaining, and improving our ISMS.

ISO 27000- This standard provides an explanation of terminologies used in ISO 27001.

ISO 27002- This standard provides guidelines for organizational information security standards and information security management practices. It includes the selection, implementation, operating and management of controls taking into consideration the organization's information security risk environment(s).

ISO 27005- This standard supports the general concepts specified in 27001. It is designed to provide the guidelines for implementation of information security based on a risk management approach. To completely understand the ISO/IEC 27005, the knowledge of the concepts, models, processes, and terminologies described in ISO/IEC 27001 and ISO/IEC 27002 is required. This standard is capable for all kind of organizations such as non-government organization, government agencies, and commercial enterprises.

ISO 27032- It is the international Standard which focuses explicitly on cybersecurity. This Standard includes guidelines for protecting the information beyond the borders of an organization such as in collaborations, partnerships or other information sharing arrangements with clients and suppliers.

ISO/IEC 29119

* ISO/IEC 29119-1: This was published in Sep 2013 and deals with concepts and definitions of software.
* ISO/IEC 29119-2: This Standard deals with test processes in a product and was published in Sep 2013.
* ISO/IEC 29119-3: This was published in Sep 2013 and deals with test documentation of the product.
* ISO/IEC 29119-4: This Standard was published one year later in 2014 and deals with testing techniques and strategies used in software testing.
* ISO/IEC 29119-5: This Standard was published in the year 2015 and deals with keyword-based software testing.

**ISO 9001**

* The ISO 9000 family of standards [1-7] is related to **quality management systems** and **designed to help organizations ensure that they meet the needs of customers and other stakeholders while meeting statutory and regulatory requirements related to the product.**
* The standards are published by ISO, the International Organization for Standardization, and available through National standards bodies.
* ISO 9000 deals with the fundamentals of quality management systems, including the eight management principles on which the family of standards is based.
* Since they first appeared in1987, the ISO 9000 series of standards have generated much interest in industry and governments worldwide.
* It is the key standard in the ISO family which Quality Systems Model for Quality Assurance in Design, Development, Production, Installation and Servicing.
* ISO 9001 deals with the requirements that organizations wishing to meet the standard have to fulfill. A number of major purchasers require their suppliers to hold ISO 9001 certification.
* I**SO9000-3**
* ISO9000-3 is typically considered as an international standard for quality.
* It is the defining standard accepted by almost all European and North American countries.
* Software development companies are often required to conform to ISO standards in order to be considered for contract awards.
* ISO-90003 provides special guidelines for implementing ISO-9000, and was created specifically for the software development industry. It is used for system development which is contributed in “guidelines for the development, supply and maintenance of software.
* In this life cycle of model is taken as the process to be controlled. The software development guidance document for ISO 9001 remains as a very general description of the procedures and guidelines for quality management.
* The main criticisms of the use of ISO 9000-3, for system development, are
* The generic nature of standard ,
* The fact that is specified for quality system development organization and that title attention is given to quality measures on the level of specific development projects.
* The ISO 9000 recognize only one certifiable level of quality, while in practice different quality level may be advisable for different situation.
* The emphasis‟ on strict procedure and their documentation in manual leads to bureaucratic type of behavior instead growing awareness of the importance of quality for the organization searching for new insight methodologies in system development may be hampered. Boehm‟s spiral is the good example of it which copes with uncertainty in system development but clashes with the rules of ISO 9000-3

### ****ISO/IEC 9126:****

This ISO standard deals with the following key aspects to determine the quality of a software application –

* Overview of Quality model
* Defining External metrics
* Defining Internal metrics
* Quality standard in use metrics

ISO/IEC 29119:

* ISO/IEC 29119-1: This was published in Sep 2013 and deals with concepts and definitions of software.
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USE CASE of Standards.

There are different standards for different products. For example, Xiaomi Corporation may be following below Standards which are applicable for smartphones

* ISO/IEC 24755:2007 Standard defines screen icons and symbols with their related functions for Redmi phones.
* ISO 9241 standard evaluate the software quality of apps
* ISO 9126 checks external quality such as reliability, usability, portability in different types of smartphones Android or iOS.
* In the same manner – ISO / IEC / IEEE with the number 29119 is intended for software testing as a compilation of internationally approved standards in software tests that are followed for any SDLC model in software development for any organization