CHAP 5 :

Spiral Model

Framework Type: It is a combination of Linear and Iterative.
Basic Principles:

Also known as the Spiral Lifecycle, it is a Systems Development Method (SDM) which combines the features of the prototyping model and the waterfall model. The spiral model is intended for large, expensive and complicated projects.

- The new system requirements are defined in detail which involves interviewing a number of external or internal users.
- A first prototype of the new system is constructed and tested by designer himself.
- Based on knowledge obtained from earlier prototype know show new prototype is prepared with additional functions
- A second prototype is evolved by a four-fold procedure:
    - evaluating the first prototype in terms of its strengths, weaknesses, and risks;
    - defining the requirements of the second prototype;
    - planning and designing the second prototype;
    - developing and testing the second prototype

CHAP 6:

SCARF : system control audit review file

System control audit review file (SCARF) technique to provide continuous monitoring of the system's transactions. The information collected is written onto a special audit file - the SCARF master files

Auditors might use SCARF to collect the following types of information:

- **System exception** : SCARF can be used to monitor different types of application system exceptions. Like it can be used to see how frequently salespersons override their standard price.
- **Statistical sample** - SCARF provides a convenient way of collecting all the sample information together on one file and Provide analytical tools to review thereon.
- **Snapshots and Extended Records** - Snapshots and extended records can be stored into the SCARF file and printed when required.
- **Application system errors** - SCARF audit routines provide checks whether there are any errors occurred after system is modified.
- **Policy and procedural variances** - SCARF audit routines checks whether any variations have occurred from policies, procedures and the industry set standards.
- **Profiling data** - Auditors can use embedded audit routines to collect data of the system users. Deviations from set USER profiles indicate some errors.
- **Performance measurement** - Auditors can use embedded routines to collect data that is useful for measuring or improving the performance of an application system.

Continuous and Intermittent Simulation (CIS):

This technique can be used to trap exceptions whenever the application system uses a database management system. **During application system processing, CIS executes in the following way:**

- The DBMS reads the transaction from USER which is passed to CIS.
- CIS then examine the transaction by replicating or simulates the application system processing.
- CIS then checks the results it produces(actual) with those the application system produces(expected).
- Exceptions identified by CIS are written on to exception log file.
- The advantage of CIS is that it does not require modifications to the application system and yet provides an online auditing capability.