Test Plan:

- A test plan is a detailed document which describes software testing areas and activities.
- Test Plan Consist all future testing related activities
- It outlines the test strategy, objectives, test schedule, required resources (human resources, software, and hardware), test estimation and test deliverables.
- The test plan is a base of every software's testing. It is the most crucial activity which ensures availability of all the lists of planned activities in an appropriate sequence.
- Test plan will be created by the Test Lead/Test Manager.

Test Plan Components or Attributes:

1.Objective:

- It consists of information about modules, features, test data etc., which indicate the aim of the application means the application behaviour, goal, etc.

2.Scope:

- It contains information that needs to be tested with respect to an application.
- The Scope can be further divided into two parts:
  1.In Scope:These are the modules that need to be tested rigorously (in-detail).
  2.Out Scope:These are the modules, which need not be tested rigorously.

Example:

- Suppose we have a Gmail application to test, where features to be tested such as Compose mail, Sent Items, Inbox, Drafts and the features which not be tested such as Help, and so on which means that in the planning stage, we will decide that which functionality has to be checked or not based on the time limit given in the product.
- Sometimes feature like About us not needed to test in detail because it's already written by company technical writer

3.Test Methodology:

- In this, we will decide what type of testing; we will perform on the various features based on the application requirement.
- It contains information about performing a different kind of testing like Functional testing, Integration testing, and System testing, etc. on the application.

- We should also define what kind of testing we will use in the testing methodologies so that everyone, like the management, the development team, and the testing team can understand easily because the testing terms are not standard.

4.Approach:
- It defines the what are different testing approaches we are using for testing
- Different Approaches are like:Design only Test Scenario, Design Test Cases, Design Test Scenario and Test Cases, Design only Flow chart.

5.Assumption:
- It contains information about a problem or issue which maybe occurred during the testing process and when we are writing the test plans, the assured assumptions would be made like resources and technologies, etc.

6.Risk:
- These are the challenges which we need to face to test the application in the current release and if the assumptions will fail then the risks are involved.

7.Mitigation Plan or Contingency Plan:

- It is a back-up plan which is prepared to overcome the risks or issues.
- Example:In any product, the assumption we will make is that the all 3 test engineers will be there until the completion of the product and each of them is assigned different modules such as P, Q, and R. In this particular scenario, the risk could be that if the test engineer left the project in the middle of it.
- Therefore, the contingency plan will be assigned a primary and subordinate owner to each feature. So if the one test engineer will leave, the subordinate owner takes over that specific feature and also helps the new test engineer, so he/she can understand their assigned modules.

8.Roles and Responsibilities:
- Roles and responsibilities of each and every person who is involved in the testing team.
- Roles responsibilities of Test Manager, Test Lead, Sr. Test Engineer and Test Engineer.

9.Schedule:
- Start date and end date of each and every testing related activities.

10. Defect Tracking/Bug Tracking:

- It is generally done with the help of tools because we cannot track the status of each bug manually. And we also comment about how we communicate the bugs which are identified during the testing process and send it back to the development team and how the development team will reply. Here we also mention the priority of the bugs such as high, medium, and low.

11. Test Environment:

- Environment setup for the testing process is called Test Environment or Test bed.
- It is the combination of hardware and software environment on which tests will be executed

12. Entry and Exit Criteria:

- It is a necessary condition, which needs to be satisfied before starting and stopping the testing process.
- Entry Criteria:
  1. White box testing should be finished.
  2. Understand and analyze the requirement and prepare the test documents or when the test documents are ready.
  3. Test data should be ready.
  4. Build or the application must be prepared
  5. Modules or features need to be assigned to the different test engineers.
  6. The necessary resource must be ready.
- Exit Criteria:
  1. When all the test cases are executed.
  2. Most of the test cases must be passed.
  3. Depends on severity of the bugs which means that there must not be any blocker or major bug, whereas some minor bugs exist.

13. Test Automation:

- In this, we will decide the following:
  1. Which feature has to be automated and not to be automated?
  2. Which test automation tool we are going to use on which automation framework?

14. Test Deliverables:

- These are the documents which are the output from the testing team, which we handed over to the customer along with the product. It includes the following:
  1. Test plan

2. Test Cases
3. Test Scripts
4. RTM(Requirement Traceability Matrix)
5. Defect Report
6. Test Execution Report
7. Graphs and metrics
8. Release Notes

15.Template:

● This part contains all the templates for the documents that will be used in the product, and all the test engineers will use only these templates in the project to maintain the consistency of the product. Here, we have different types of the template which are used during the entire testing process such as:

1. Test case template
2. Test case review template
3. RTM Template
4. Bug Report Template
5. Test execution Report