**What is 7 key principles? Explain in detail?**

**Ans: -**  1. Testing shows presence of defect

2. Exhaustive testing is impossible

3. Early testing

4. Defect clustering

5. Pesticide paradox

6. Testing is context dependent

7. Absence of error fallacy

Explain in brief under: -

1. **Testing shows the presence of defects**: - testing shows the presence of defects but cannot prove that this product is 100 percent defect free.

Testing shows the defects are precented.

1. **Exhaustive testing is impossible**: - that means you cannot test all condition and all scenarios they have many results so this is time consuming, risk, and will make costly as well. For example, one billing

software calculates taxes on final price than you cannot check as on 500rs what amount tax deducted after same on 100,5000,2500 etc.

1. **Early testing:** - that means you should test early as possible from reporting analysis face so you can reduce number of defects from the beginning.
2. **Defect clustering: -** that means you found 2 or 3 defects in a single module so maximum chance to found most the defects in those module defects are not clustered in hole system. In a simple word we can say that there are 80 present defects will find in a 20 percent module. Defects are not spread in a system. They are clustered.
3. **The pesticide paradox**: - that means once a tester finds bugs on solve them after that minimum chance to find any bug so than you should revise your test document and then test on different module so you can find bug. For example, WhatsApp version 2 test document cannot work in version 4.
4. **Testing is context dependant:** - That means not all testing approaches work in each project. Some will in one environment, while others in other environments. For example, in gaming software tester check how much load on the ram, how much ram required for run this software etc. while in billing software tester check usability, convenience, bill processing load etc.
5. **Absence of error fallacy: -** That means in a software you do not find any error than you made some mistake so you should check the all-requirement document so you can find defect.

**2. What is Error, Defect, Bug and failure?**

**Ans: -** when developer makes mistake while coding it called error, then tester found this them it is defect, after developer accept it is a bug, defect are not fixed by developer it is failure.

**3.** **Difference between verification and Validation**

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| **Verification and Validation** | | |
| **Sr No.** | **Verification** | **Validation** |
| 1 | Verification Testing is a review activity | Validation testing is a test execution activity. |
| 2 | Verification Testing involves static testing technique | Validation involves dynamic testing techniques |
| 3 | Verification testing checks the document like: Plans, Requirement specification, Design specification, code, test case etc. | validation testing checks the actual product |
| 4 | QA team does verification testing | Testing team does Validation testing |
| 5 | Verification process come before validation testing | validation process come after verification testing |
| 6 | Here question is 'are you building it Right? | Here question is 'Have you build the right thing? |