1) What is Agile?  
   
AGILE is a methodology that promotes continuous iteration of development and testing throughout the software development life cycle of the project. Both development and testing activities are concurrent unlike the Waterfall model.  
  
2) What is Agile testing?  
   
Agile Testing is testing practice that follows the principles of agile software development. Agile testing involves all members of an agile team with special skills and expertise to ensure business value is delivered at frequent intervals.  
  
3) In what way does the Agile Testing /Development Methodology differs from the other testing /development methodologies?   
   
Anytime applying agile methodology, the testers /developers ensure that the whole process of testing /development is broke into as small steps as possible and just a small unit of code is tested /developed in each of this steps. The team of testers /developers is communicating consistently the results of their work, and change the short term strategy and even the development plan on the go, based on the results of agile testing. Agile methodology encourages flexible and rapid response to change which should lead to a better end result.  
  
4) How is it different to traditional Waterfall or the V model?  
   
The big difference is that in agile environment, testing is not a phase, it is an activity parallel to development.  
•    In agile environment, small features of software are delivered frequently, so testing activity should be parallel to development activity. Testing time is short as we are only testing small features.  
•    In the waterfall model, there is a testing phase at the end of the development so, testing is a big effort done after the whole application is developed. Testing time is long as we have to test the whole application.  
  
5) What are the different Methodologies in agile testing?  
   
There are various methods present in agile testing such as,  
•    Scrum  
•    Crystal Methodologies  
•    DSDM(Dynamic Software Development Method)  
•    Feature driven development(FDD)  
•    Lean software development  
•    Extreme Programming(XP)  
  
6) List out the pros and cons of exploratory testing (used in Agile) and scripted testing?   
     
 Exploratory Testing:      
Pros:  
•    It requires less preparation- Easy to modify when requirement changes  
•    Works well when documentation is scarce  
Cons:  
•    Presenting progress and Coverage to project management is difficult  
    Scripted Testing:  
Pros:   
•    In case testing against legal or regulatory requirements it is very useful      
  
Cons:  
•    Test preparation is usually time-consuming- Same steps are tested over and again  
•    When requirement changes it is difficult to modify  
  
7) What are the benefits of Agile Software development?  
  
Agile methods grew out of the real-life project experiences of leading software professionals who had experienced the challenges and limitations of traditional waterfall development on project after project.  The approach promoted by agile development is in direct response to the issue associated with traditional software development – both in terms of overall philosophy as well as specific processes.  
  
8) What is the Agile Manifesto?  
   
The agile software development emphasizes on four core values:  
•    Individual and team interactions over processes and tools  
•    Working software over comprehensive documentation  
•    Customer collaboration over contract negotiation  
•    Responding to change over following a plan  
  
9) What are some of the key features of Agile Development?  
   
Some of the key features of agile development are,  
•    Collective code ownership and freedom to change.  
•    Incremental approach (e.g. user stories are incrementally implemented). Automation (e.g. TDD -- Test Driven Development).   
•    Customer focused (for e.g. internal and external users and business analysts are your immediate customers).  
•    Design must be simple.  
•    Designing is an ongoing activity with constant re-factoring to achieve the rules of code simplicity like no duplication, verified by automated tests, separation of responsibilities, and minimum number of classes, methods, and lines.  
  
10) What is Scrum?  
   
Scrum is an innovative approach to getting work done in efficient way. It is iterative & incremental agile software development method. These iterations are time boxed with various iterations & each iteration is called Sprint. According to latest surveys Scrum is the most popular agile project management methodology in software development. The term Scrum is formed from Rugby.  
Scrum is ideally used where highly emergent or rapidly changing requirements. Scrum is basically worked on a self-organizing, cross-functional team. In the overall scrum team there is no team leader who assign the task to team rather whole scrum members work as a team & they decides the task on which they will work on. Also the problem will be resolve by team.  
  
11) What are the three main roles in Scrum?  
   
The Scrum team consists of three main roles:  
•    Product Owner: Manages the product backlog. PO is the voice of the business and create new features to be developed for the application.  
•    Scrum Master: Responsible for managing the sprint, remove any impediments and keeps track of the progress of the project.  
•    Scrum Team itself: Composed of developers, designers and QA. This forms the team which is responsible for delivering high quality software.  
  
12) What is Sprint?  
   
Sprint is a predefined interval or the time frame in which the work has to be completed and make it ready for review or ready for production deployment. This time box usually lies between 2 weeks to 1 month. In our day to day life when we say that we follow 1 month Sprint cycle, it simply means that we work for one month on the tasks and make it ready for review by the end of that month.  
  
13) Explain how you can measure the velocity of the sprint with varying team capacity?  
   
When planning a sprint usually, the velocity of the sprint is measured on the basis of professional judgment based on historical data. However, the mathematical formula used to measure the velocity of the sprint are,  
•    First – completed story points X team capacity: If you measure capacity as a percentage of a 40 hours weeks  
•    Second – completed story points / team capacity: If you measure capacity in man-hours  
For our scenario second method is applicable.  
  
14) What is an epic, user stories and task?  
   
•    Epic: A customer described software feature that is itemized in the product backlog is known as epic. Epics are sub-divided into stories  
   
•    User Stories: From the client perspective user stories are prepared which defines project or business functions, and it is delivered in a particular sprint as expected.  
   
•    Task: Further down user stories are broken down into different task  
  
15) Mention the key difference between sprint backlog and product backlog?  
   
•    Product backlog: It contains a list of all desired features and is owned by the product owner  
   
•    Sprint backlog: It is a subset of the product backlog owned by development team and commits to deliver it in a sprint. It is created in Sprint Planning Meeting  
  
16) In Agile mention what is the difference between the Incremental and Iterative development?  
   
•    Iterative: Iterative method is a continuous process of software development where the software development cycles are repeated (Sprint & Releases) till the final product is achieved.  
Release 1: Sprint 1, 2… n  
Release n: Sprint 1, 2….n  
•    Incremental: Incremental development segregates the system functionality into increments or portions. In each increment, each segment of functionality is delivered through cross-discipline work, from the requirements to the deployment.  
  
17) Explain what is Spike and Zero sprint in Agile? What is the purpose of it?  
   
•    Sprint Zero: It is introduced to perform some research before initiating the first sprint. Usually this sprint is used during the start of the project for activities like setting development environment, preparing product backlog and so on.  
   
•    Spikes: Spikes are type of stories that are used for activities like research, exploration, design and even prototyping. In between sprints, you can take spikes for the work related to any technical or design issue. Spikes are of two types Technical Spikes and Functional Spikes.  
  
  
28) What are the Disadvantages of Agile model?  
   
•    In case of some software deliverables, especially the large ones, it is difficult to assess the effort required at the beginning of the software development life cycle.  
•    There is lack of emphasis on necessary designing and documentation.  
•    The project can easily get taken off track if the customer representative is not clear what final outcome that they want.  
•    Only senior programmers are capable of taking the kind of decisions required during the development process. Hence it has no place for newbie programmers, unless combined with experienced resources.