Task 1

Imagine the following situation. You need to establish a QA process in a cross-functional team. The team builds a front-end application using REST APIs.
1. Where would you start? What would be your first steps?
2. Which process would you establish around testing new functionality? How would you want the features to be tested?
3. Which tools would you suggest using to help your team with a daily work?
4. If you would do a test automation which techniques or best practices would you use the application?

Solution

Where would you start? What would be your first steps?

As a test engineer I would start by taking the following steps;

   a. Analyze the requirements for;
      1. Understanding the scope of the application.
      2. Identifying problem areas/conflicts if any and highlighting them so that design can be improved.
      3. Identifying the test strategy in terms of the length and breadth of testing that can be done with the provided resources.
      4. Identifying test cases early and start documenting them.
      5. Extracting acceptance criteria and write acceptance test cases unless it's provided separately.
   b. Identify APIs that are developed locally and create test cases for all the responses and stress testing.
   c. Identify core areas of the application to document sanity test cases.

Which process would you establish around testing new functionality? How would you want the features to be tested?

   1. If the new features have been developed based on existing API's;
      a. Provided build is to pass automated sanity tests.
      b. Functional testing of the new features in the build to be carried out.
      c. Integration testing of the new features with existing modules of the application to be carried out.
      d. Automated Regression testing to be done at the end after steps a, b and c.
      e. Identification of test cases for automation with regards to the new features.

2. If new API's have been developed or existing ones have been changed then the following is to be done in addition to the testing mentioned in point 1;
   a. Validation of additional/changed responses from the APIs.
   b. Test that data to/from the APIs is being processed/displayed properly on the front end.

3. Bugs that are identified are to be created against the task in the project management tool and reported to the team by proper communication channels i.e. team messenger or company email.
4. At the end of the testing cycle, the reported bugs are to be fixed, a new build is to be created, and the fixes are to be verified.
5. Steps 3 and 4 are to be repeated until all the reported bug fixes have been verified.
6. Finally, the acceptance test cases are to be executed and if successful, the build is to be released.

Which tools would you suggest using to help your team with a daily work?

1. A project management tool. Examples can be JIRA, ClickUP, TFS.
2. A test management tool like TestRail, Bugzilla or Quality Center.
3. Version Control tool like SVN, Bitbucket or GitHub.
4. A team messenger like Slack, Stride or Rocket chat.
5. Continuous Integration tool like Jenkins or CircleCI.

If you would do a test automation which techniques or best practices would you use the application?

1. Write multiple integration tests and a few end to end tests.
2. Create small and independent tests.
3. Tests should have dedicated test data i.e. no duplicates.
4. All the data used for testing should be cleaned up at the end of the test.
5. Test environments should be dedicated i.e. Stage, QA.
6. Tests should be configured to show code coverage so that we know which code has not been executed.
7. Coverage of edge cases.