Task 1 :

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

Considering the following situation where QA process has to be established for cross-functional team. I will consider below mentioned points:

a)Team Size
b) Skills set of existing team
c) Identifying Training needs be it be internal or external.
d)Analysing the BRS(business requirement specification),SRS(system requirement specification),Wireframes.
e)Acceptance criteria for each feature to be tested.
f) Creating Test plan and resource management.
g) Identifying tools to be used.
h) Communication of QA Team members with stakeholders, project manager and Development Lead.

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

For testing a new functionality first the acceptance criteria has to be approved from Stakeholder.
Once it is approved we will figure out all relevant test scenarios and then break them into Test Cases.

The format of test cases can be in Gherkin Language(given,when,then format) so that it is easily understandable by Business Analyst, Project Managers. Also the test cases should be reviewed internally by QA team members and approved by Project Managers.

Brainstorming should be done by QA team for identifying all possible test cases in new feature.

Also I would recommend all this to be followed on the principle of Agile methodology and make sure that it is implemented.

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

It completely depends on organization and budgets for the tools.

If it can be managed my first preference will be open source tools. Eg: Postman,Newman,Selenium.

For test management purpose we can use Test Rail,Jira,Test Link And if budget allows then will go with Quality center.

For task management we can use Jira,You-track or trello boards.

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

For test automation first need is of a framework which should be scalable.

Tools used will be selenium with java.
And for IDE we can eclipse or Intelli J Idea community edition.
Both the IDE are open source.

The hybrid framework, is one of the most basic type of automation framework. In this framework, a test scripts are written to match a functionality that represent modules of the application-under-test. These modules in turn are used in a hierarchical fashion to build large test cases.

The Framework is divided into 4 layers. The framework will be designed in such a way that it will be scalable any time and will support all the technologies in future. The framework will be capable of creating interactive reports using extent reports. The framework will also use Data Driven testing by taking input from excel sheet.

The Framework to be implemented should be as follows: