**TITLE OF PAPER: Software Development Tools and Practices**

**INSTRUCTIONS TO CANDIDATES:**

**Answer Five Questions – Total Marks 100**

**The paper consists of two sections. The first section (40 marks) is focusing on web development and contains both MCQ type questions and structured type questions.**

**There will be 3 structured type questions related to software quality assurance in general in the second section (60 marks). Each question will have multiple sub question.**

**The following are some sample questions, DO NOT expect the same for the exam.**

**Section I (40 marks)**

1. Multiple Choice Questions related to web application development in HTML, CSS, Javascript, and basic PHP. You may refer to the following pages and practice some questions along with “Try it Yourself” feature.
   1. <https://www.w3schools.com/html/default.asp>
   2. <https://www.w3schools.com/css/default.asp>
   3. <https://www.w3schools.com/php/default.asp>
   4. <https://www.w3schools.com/php/default.asp>
2. Compare and contrast static and dynamic web pages.
3. Explain URIs, URLs & URNs with examples each.
4. Explain client-side and server-side state management techniques.
5. Compare and contrast sessions with one of the client-side state management techniques.
6. What does DBMS stand for? What are the other types of storage systems other than RDBMS?
7. Name three commercial software programs for managing DB.
8. What are the problems of not validating a web form?
9. Discuss what are the impacts if user sensitive data was exposed.
10. Regular expressions rules and how to apply them
11. Most common abbreviations related to web development, such as PHP, XML, AJAX, WSDL, WADL, SOAP, URL, XSS, etc.
12. Explain best practices in web development.

**Section II (60 marks)**

1. QA principles and how to apply them in a given scenario
2. Characteristics of test cases and test cases for a given scenario
3. Quality assurance (QA) is a way of preventing mistakes and defects in manufactured products and avoiding problems when delivering products or services to customers. ISO 9000 defines Quality Assurance as “part of quality management focused on providing confidence that quality requirements will be fulfilled”.
   1. Explain above statement considering QA principals.
   2. A project manager of a software development company state that the main objective of Software Quality Assurance is to “prove that software is ready to delivery”

Explain why this is not suitable goal for Quality Assurance Engineer.

1. You are assigned to test hotel reservation system. The system is basically having below features.
   * + Customers can reserve room online. Booking must be made 30 days prior to the arrival.
     + A guest can book maximum of 4 rooms at a time.
     + Guests who are having loyalty cards, can claim 40% during their stay between June to August, except weekends and holidays.
   1. Explain the term “good test case.”
   2. Name six items in a test case document
   3. Write down five (5) test cases from above scenario.