# QUALITY ASSURANCE
# INFORMATION SYSTEM CONTROL AND AUDIT

## Quality Assurance

1. Draw the following quality process improvement tools and give two points on how each of these tool help in process improvement.
   (a) Flowchart
   (b) Check sheet
   (c) Histogram
   (d) Pareto Chart
   (e) Scatter diagram
   (f) Control chart
   (g) Cause-and-effect diagram
   (h) Run chart

2. What is QMS? Explain the elements (clauses) of QMS process model using ISO 9001:2008? Map these to the software development phases or activities. Identify at least two major challenges that arise in each of these phases and show how QMS help us meet these challenges?

3. Name the five maturity levels in CMMi? Describe each one in brief using the model.

4. Name the eight quality management principles and explain each one of them in brief.

5. What is your understanding about the terms "Quality Assurance" and "Quality Control"? Name any two measures for each for QA and QC. Explain the same with suitable example.

6. Explain briefly any 10 of 14 management principles of Deming and relate each principle to an information management or software development industry.

7. What is the meaning of the term (i) measure and (ii) metrics? Name and explain at least four software quality metrics? Name any two software attributes that are normally measured? List and explain any two metrics for each of these two software attributes. (2 metrics for 2 attributes = 4 measurements)

## Information System Audit and Control Practices

8. What do you understand by the term Information Systems Audit?
   You have been asked to conduct an IS audit for 3 locations of JB Technologies Ltd, a software development company, at multi-cities within India (17 locations), United Kingdom (3 locations), and the United States of America (13 locations).
   What is the basis on which you will choose your 3 locations?
   What areas (at least 2 main and 2 support functions) of organization's business practices will need to be covered?

List at least 3 things that you will cover in each of these business practices. Explain briefly justifying your stand taken above.

9. Explain the terms: (i) IT Service Management (ITSM) and (ii) IT Service Management System (ITSMS)? Describe briefly all 13 IT service processes of ISO 20000-1:2011 and map the same with software service activities.

10. Explain the terms: (i) Information Security (IS), (ii) Information Security Management (ISM) and Information Security Management System (ISMS)? Describe briefly the PDCA cycle of ISO 27001:2005 and its 11 control areas or domains.

11. Explain the terms: (i) Business Continuity and (ii) Business Continuity Management System (BCMS)? Describe the five elements (stages) of a BCM program management and map them for an Information management or software development company.

12. Explain the terms: (i) Control and (ii) Control Objectives. Expand the word COBIT? Name the four major areas of COBIT and explain your understanding on each one of them.

13. Name and explain in brief (one or two sentences) the five principles of COBIT 5. Name and explain the seven enterprise enablers used in COBIT 5.

14. What is your understanding about (i) risk and (ii) risk management with respect to an IT enterprise? Explain how the terms threat, impact, etc. relate to risk. Explain briefly the activities that are carried out during risk identification, risk estimation, risk evaluation and risk treatment in the overall risk management process.

15. What constitute an eCommerce activity(ies)? What will you audit in an eCommerce environment? Describe the content of an audit report with respect to the objective of the audit, outcome or audit findings for an eCommerce business.


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