

## **IBM SERVICE ORIENTED ARCHITECTURE (SOA) FUNDAMENTALS [2008] COURSE CONTENT**

### ❖ **SECTION 1 - THE VALUE OF SOA (15%):**

- A. Identify business functions where SOA can improve competitiveness and productivity.
- B. Identify how SOA can provide return on investment (ROI) (improve competitiveness, reduce costs, increase responsiveness.)
- C. Identify the SOA features that make businesses more agile.
- D. Identify the opportunity costs of not adopting SOA.
- E. Identify situations where SOA does not provide the desired value or is not appropriate.
- F. Identify the business drivers for SOA.

### ❖ **SECTION 2 - SOA CONCEPTS (26%):**

- A. Define the concept of a service in SOA.
- B. Describe the architectural concepts used in SOA (for example: loose coupling and separation of concerns.)
- C. Describe the roles that XML plays in SOA.
- D. Describe the role of a service registry and/or repository in SOA.
- E. Explain what a business process is in the context of SOA (including business process management and automation) and how it facilitates business flexibility.
- F. Determine the role that technology standards (SOAP, WSDL, WS-Security, BPEL, WS-I) play in SOA.
- G. Describe the role that Web2.0 and its related technologies play in SOA (for example: REST and AJAX).
- H. Describe the importance of goals, KPIs, and measurement to business success with SOA.

### ❖ **SECTION 3 - BASIC SOA ARCHITECTURE (20%):**

- A. Describe the characteristics of a basic SOA architecture.
- B. Describe the elements of the IBM SOA Reference Architecture, and their roles and relationships.
- C. Describe the enterprise service bus (ESB) and its role in SOA.
- D. Describe the role of Web services and messaging in building an SOA.
- E. Describe orchestration of business processes using services and human interactions.
- F. Describe the stages of the SOA lifecycle (model, assemble, deploy, manage).

### ❖ **SECTION 4 - SOA MANAGEMENT (19%):**

- A. Explain the need for SOA governance.
- B. Describe SOA governance and related concepts (roles and responsibilities, funding models, policies, enforcement, critical success factors, and metrics.)
- C. Describe Quality of Service (QoS) issues pertinent to SOA.
- D. Explain the need for a distributed security model (including issues like identify provisioning and propagation.)
- E. Identify the impact of changes to services in the SOA lifecycle (change management, versioning, and service lifecycle.)
- F. Identify the role of an enterprise service bus (ESB) in SOA management and governance.
- G. Identify service management issues.

### ❖ **SECTION 5 – PREPARING FOR SOA (20%):**

- A. Describe the elements of SOA governance that need to be addressed during the preparation for SOA.
- B. Understand the importance of documenting business issues, drivers and goals when preparing for SOA.
- C. Capture and assess IT issues, drivers, and goals (including metrics and KPIs.)
- D. Describe the people, organizational, and technology factors that impact readiness for SOA and its success.
- E. Describe the steps for SOA adoption (including adoption roadmaps and maturity assessments.)

- F. Identify barriers to SOA adoption.
- G. Describe points of entry into SOA.
- H. Describe the importance of securing executive sponsorship and solving funding issues for SOA adoption.

