Reg. No. : | | | | | | | | | | |

Question Paper Code: 41861

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Sixth Semester

Information Technology

14UIT601 - SERVICE ORIENTED ARCHITECTURE

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Point out the correct statement:
   (a) SOA describe a standard method for requesting services from distributed components and managing the results
   (b) SOA provides the translation and management layer in an architecture that removes the barrier for a client obtaining desired service
   (c) With SOA, clients and components can be written in different languages and can use multiple messaging protocols
   (d) all the above

2. Which of the following is used to define the service components that performs the service?
   (a) WSDL (b) SCDL (c) XML (d) None of these

3. SOA has evolved with the following design principles:
   (a) service invokability, service loyalty, service provider, service implement-ability
   (b) service statelessness, service singlton, service registry, service invocation
   (c) standardized service contracts, loose coupling, service abstraction, service reusability, service autonomy, service statelessness, service discoverability and service composability
   (d) unstandardised services, tight coupling, loose cohesion, service reusability, service abstraction

4. _____ and _____ are used to classify and organize services within a service inventory.

   (a) service compositions, service oriented solutions
   (b) service capabilities, service compositions
   (c) service models, service layers
   (d) service contracts, service cpabilities

5. Which architecture will be built on top of a SOA?

   (a) The application architecture (b) The service architecture
   (c) The component architecture (d) None of these

6. Service-oriented computing advocates a concept based on the creation of a service layer with standardized and unified endpoints (service contracts) while allowing individual service implementations to remain disparate and independently governed, This concept is known as

   (a) interoperability (b) transformation
   (c) federation (d) isolation

7. A part of a service contract that is commonly standardized is the _____

   (a) data model (b) service agent (c) service registry (d) data agent

8. An IT enterprise with an SOA initiative that is based on the creation of a single enterprise service inventory. However, conflicts arise when different IT departments disagree on who will own the services and how they will be governed. Which of the following alternative approaches could be chosen to address these conflicts?

   (a) The top-down approach is chosen. This allows services to be modeled subsequent to their design, thereby enabling each service to be governed by multiple owners.
   (b) It is decided to proceed with the creation of multiple domain service inventories. This allows collections of services to be independently governed by different owners, while still enabling the IT enterprise as a whole to transition toward SOA.
   (c) The established "contract last" approach is chosed, allowing different IT managers to focus on contract-related governance issues after the services are deployed and in use.
   (d) Because SOA projects absolutely require enterprise-wide standardization and further demand he creation of an enterprise service inventory, the IT managers have no choice than to cancel the project.

9. An product or technology that is key to facilitating service discovery and service governance in general is a:

(a) visual service development tool (b) business analysis tool
(c) service registry (d) none of the above

10. The ability of one service to _____ another service forms the basis of service _____.

(a) divert, diversification (b) register, registries
(c) consume, composition (d) integrate, integration

PART - B (5 x 2 = 10 Marks)

11. What are the common pitfalls of adopting SOA?

12. List the web services platform elements.

13. Write the business-centric entry points.

14. Give the architecture components of J2EE to SOA.

15. How will you declare relationship between the roles in WE - Choreography?

PART - C (5 x 16 = 80 Marks)

16. (a) (i) Explain about the characteristics of SOA. (8)

(ii) Compare SOA with client-server and distributed internet architectures. (8)

Or

(b) (i) Discuss in detail about the common principles of service-orientation. (8)

(ii) Write short notes on anatomy of SOA. (8)

17. (a) Explain briefly about data and message exchange patterns for enterprise SOA. (16)

Or

(b) Explain briefly about technical requirements for orchestration and choreography. (16)

18. (a) (i) Explain briefly about service oriented design and development. (8)

(ii) Explain about WSDL and its manipulation with example. (8)

Or

(b) (i) Explain briefly about entity - centric business service design. (8)

(ii) Explain about XML - RPC with SOAP. (8)

19. (a) Discuss in detail about SOA support with J2EE and API's. (16)

Or

(b) Explain about JAXR and JAX - RPC with example. (16)

20. (a) (i) Draw the WS - BPEL family tree. (6)

(ii) Explain briefly about WS - Choreography model description. (10)

Or

(b) (i) Give the basic structure of the XML signature and explain what does XML - signature elements provide? (8)

(ii) Give the specifications of WS - Security framework and syntax of WS - Security element and explain briefly about WS - Security. (8)

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