

(2 ½ Hours)

[Total Marks: 75]

- N.B
- 1) All questions are compulsory.
 - 2) Figures to the right indicate marks.
 - 3) Illustrations, in-depth answers and diagrams will be appreciated.
 - 4) Mixing of sub-questions is not allowed.

Q.1 Attempt All (Each of 5 Marks)

(15M)

(a) Multiple Choice Questions

(5M)

1. In contrast, the contract-first approach encourages you to think of the service contract first in terms of :-
 - a) XML
 - b) XML Schema(.xsd)
 - c) WSDL
 - d) All of the mentioned
2. The basic Web Services platform is combination of _____ and _____.
 - a) CSS + HTTP
 - b) XML + HTML
 - c) XML + HTTP
 - d) CSS + JAVA
3. Which of the following is correct about Service Description layer in Web Service Protocol Stack?
 - a) This layer is responsible for describing the public interface to a specific web service
 - b) Currently, service description is handled via the Web Service Description Language (WSDL)
 - c) Both of the above
 - d) None of the above
4. Which of the following style(s) is/are Strictly WS-I compliant?
 - a) Document/encoded
 - b) RPC/literal
 - c) Document/literal
 - d) RPC/encoded
5. XML digital signatures provides
 - a) Authentication
 - b) Authorization
 - c) Confidentiality
 - d) Integrity

(b) Fill in the blanks

(5M)

(Use these pool of options - JAXR, ServiceContract, UDDI, One, Web Services)

1. _____ is used to convert your application into Web-Application.
2. Web services can be discovered using _____
3. The standard for deploying web services on the Java EE platform as of Java EE 1.4 is _____.
4. _____ attribute is used to define a wcf service class.
5. The default WCF Request Send/Receive timeout is _____ min(s).

(c) Give short answers in 1-2 sentences

(5M)

1. What is the purpose of SOAP in a web service?
2. List key elements of a RESTful implementation
3. Purpose of URI in RESTful web services?
4. Explain the rest state and motion of body.
5. Which WCF Contract used to document error from service to client?

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Q. 2 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- (a) Explain in brief the various tags in WSDL document.
- (b) Explain in detail the data structures used in UDDI.
- (c) What is JAX-WS? How it is useful for describing SOAP web services?
- (d) How web services are related to distributed computing?
- (e) What is the Enterprise Service Bus and how does it relate to SOA?
- (f) List the advantages and disadvantages of SOAP.

Q. 3 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- (a) List and explain the various Http methods required for creating RESTful Web Services.
- (b) List and explain the important points to be considered when constructing a standard URI.
- (c) Describe the core constraint of RESTful system.
- (d) Explain how data exchange happens using JSON.
- (e) Explain OAuth 2.0 with an example?
- (f) Explain annotations for processing HTTP request methods?

Q. 4 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- (a) What is Windows Communication Foundation (WCF)?
- (b) Giving example explain how to define a Windows Communication Foundation Service Contract.
- (c) Define quality of service for Web services.
- (d) With neat figure illustrate the major layers of the Windows Communication Foundation (WCF) architecture.
- (e) Explain different tasks that are required to build a WCF application
- (f) Explain the Features of WCF in detail?

Q. 5 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- (a) Write a short note on WSDL message exchange patterns.
- (b) Explain annotations used in RESTful web service.
- (c) How a .Net application can communicate with a Java application?
- (d) List and explain various applications of Web services.
- (e) List the advantages and disadvantages of Statelessness.
