

QUESTION 1:

CLO# 2

[20 marks]

[10 marks]

1. Write "TRUE" for correct statements and "FALSE" for wrong ones.

Statement	T/F
XML allows data to be stored in either elements or attributes	✓
XML Schema focuses on structure, element and attribute definition--data typing is limited to text (Based on SGML syntax) DTD	X
A business or company can register two types of information into a UDDI registry, yellow and green pages.	X
SOAP Fault must appear as a child element of the Body	✓
The SOAP Envelop body is the area of the SOAP message, where the application specific XML data (payload) being exchanged in the message is placed	X
SOAP message must contain a DTD or Processing Instructions must not	X
REST is a standard or protocol, REST is not an architectural style	X
REST is based on existing web (WWW, HTTP) principles and protocols	✓
RESTful web services inherits security measures from the underlying transport	✓
The types in WSDL are used to specify the contents of the messages that will be exchanged as part of the interactions with the Web service	✓

2. Select the correct answer for the following questions:

[10 marks]

1. Contain general info about a specific company

- A) Yellow Pages
- B) Green Pages
- C) White Pages
- D) Red Pages

2. Services provided by an organization is a referral to as:

- A) Business Service
- B) Business Entity
- C) Binding Template
- D) tModel

What is NOT one of the Advantages of SOAP

- A) Firewall
- B) Friendliness
- C) Use of open standards
- ☒ D) Statelessness

5. Decomposition of system functionality into client, server and intermediary is:

- A) Client-server paradigm
- B) Uniform interface
- C) Stateless
- ☒ D) Layered system

7. REST assumes the methods

- ☒ A) Both GET and HEAD to be safe
- B) Only GET to be safe
- C) Only HEAD to be safe
- D) Neither GET nor HEAD are safe

9. One of the architectural constraints is a client request contains all information necessary for the server to understand the request, which is:

- A) Client-server paradigm
- ☒ B) Stateless
- C) Cacheable
- D) Code on demand

4. tModBinding Template only provides info about

- A) Where to access a specific web service
- ☒ B) Where to access the SOAP binding
- C) How to interface with SOAP binding
- D) A single Web service

6. A SOAP message may carry

- A) Both application-specific data and a fault
- ☒ B) Either application-specific data or a fault
- C) The information that is exchanged with a Web service
- D) None of the above

8. The goal of REST is to achieve

- ☒ A) The same scalability and simplicity
- B) Only scalability
- C) Only simplicity
- D) None of the above

10. SOAP can use GET or POST, With POST:

- A) Both request and response are SOAP messages
- B) The request is not a SOAP message but the response is a SOAP message
- C) The request is a SOAP message but the response is not a SOAP message
- D) None of the above

QUESTION 2:

CLO# 3, CLO# 4

[10 marks]

- Complete the following ten statements by the words from the following list:

SOAP	WS-Transactions	code on demand	business entity	4
WSDL	WS-Coordination	uniform interface	business service	envelope
UDDI	behaviors	serialization	binding template	6
REST	activities	conventional middleware	upgrade	tModel

1. The main goal of WS-Coordination is to serve as a generic platform for implementing advanced transaction models.

2. REST defines 6 architectural constraints that a system architecture must comply with to obtain scalability.

3. *code on demand* is an optional constraint for a REST-style system. It means the dynamic download and execution of code on the client.
4. The coordinator defined by WS-Coordination is described using *WSOL*.
5. WS-Coordination encompasses a set of *behaviors* and APIs which enable a module to extend Web services with coordination capabilities.
6. WS-Coordination is an attempt at standardizing the use of *SOAP* headers for coordination protocols.
7. *REST* is resource oriented. Resources (pieces of information) are addressed by URIs and passed from server to client (or the other way round).
8. *business entity* element includes info about the actual business – Business name, description, contact info such as address, phone, contact person, etc.
9. *tmodel* is a generic element that can be used to store additional information about the service, typically additional technical information on how to use the service, conditions for use, guarantees, etc.
10. The SOAP *Serialization* has the namespace identifier "http://www.w3.org/2001/06/soap-encoding"

QUESTION 3: CLO# 5, CLO# 6 [10 marks]

1. What is Document Type Definition (DTD)? [1 mark]

DTDs

- Specify what elements and attributes are valid for a particular instance
- Limited ability to specify data types

DTD focuses on structure, element and attribute definition--data typing is limited to text

2. Define an operation in WSDL file? [1 mark]

An operation is a set of messages and faults. The sequencing and number of messages in the operation is determined by the message exchange pattern

Explain the difference between SAX and DOM.

[2 marks]

SAX:

provides a collaboratively developed standard interface for XML parsing

DOM:

provides a platform and language neutral interface defined by W3C that allows programs and scripts to access and update the content, structure, and style of documents

4. Explain what we mean by XML Decoupling?

[2 marks]

No presentation format is assumed.
No built in data typing is provided.
No transport is assumed.

5. What is WSDL? And what are the main elements in WSDL file? [2 marks]

WSDL is an XML-based language used to define Web Services and describe how to access them.

Abstract Description : data type, messages, operation, port type

Concrete description: binding, services

6. List the 4 items in "fault reference component" in WSDL file, and explain one of them.

[2 marks]

- a name
- message reference: the message to which the fault refers to
- direction: whether the fault is inbound or outbound
- message: the actual contents

----- End of the examination's paper -----

Good Luck!