Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –Ist SEMESTER–EXAMINATION – JULY- 2012

Subject code: 710101N **Date: 05/07/2012**

Subject Name: Service Oriented Architecture

Time: 2:30 pm – 05:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Create a XML schema and a XML document that is an instance of the schema as following: **07**

1. Define **PurchaseOrderType** as a complex type as following

   Sequence of the following elements
   a. **shipTo** element which is **Address** type
      i. **billTo** element which is **Address** type
      ii. **items** element which is **items** type
   b. **orderDate** attribute whose type is **xsd:date** type
2. Define **Address** as a complex type as following
   a. Sequence of the following elements
      i. **streetname** whose type is **xsd:string**
      ii. **streetnumber** whose type is **xsd:int**
      iii. **city** whose type is **xsd:string**
      iv. **zip** whose type is a **listOfMyIntType**
   b. **country** attribute whose type is enumeration of **US, Korea, Egypt**.
3. Define **items** as a complex type as following
   a. Sequence of the following elements
      i. **name** whose type is **xsd:string**
      ii. **quantity** whose type is **xsd:long**
      iii. **price** whose type is **xsd:int**
   b. **availability** attribute whose type is enumeration of **Yes, No**.
4. Define **listOfMyIntType** as following
   a. It is a 5 digit integer
5. Declare the following two global elements
   a. **purchaseOrder** whose type is **PurchaseOrderType**
   b. **comment** whose type is **xsd:string**

(b) Create a XML file for 2 persons. Alan Turing who born in 1911 and died in 1954 and whose professions are computer scientist, mathematician and cryptographer. Second is Richard M Feynman who born in 1918 died in 1988 and whose profession and hobbies are physicist and playing bongos. Create a XML style sheet file for processing above XML file to display as below: **07**

```
    Alan
    Turing

computer scientist
mathematician
cryptographer



    Richard
    M
    Feynman

physicist
Playing the bongoes
```

Q.2 **(a)** Create a WSDL doc/literal file for the operation: **07**
String getAddress(String streetName, int streetNumber)

(b) Create a Web service Client and Server for following operation: **07**

```
public int Add (int x, int y){
    return x+y;
    }
```

OR

(b) Create a Web service Client and Server for following operation: **07**

```
public string Hello (string name)
    return name;
    }
```

Q.3 **(a)** Define Service Oriented Architecture. Discuss various architectural elements of it in brief. **07**

(b) Categorize following service into various types of service for a business process: **07**
Accounts Payable Service, Internal Policy Service, Invoice Submission Service ,Ledger Service , Load Balancing Service ,Order Fulfillment Service , Purchase Order Service

OR

Q.3 **(a)** What is Serialization in java? Explain it with suitable example. **07**

(b) Define: loose coupling, semantic data, governance , compensation service, orchestration, choreography , BPM **07**

Q.4 **(a)** Draw and Discuss service lifecycle in detail. **07**

	(b)	Draw a business process model for purchasing a book from www.amazone.com, where payments are accepted through credit cards and shipping is managed by logistic company.	**07**
		OR	
Q.4	**(a)**	Discuss Hierarchical and Conversational composition of SOA in brief.	**07**
	(b)	Define: SCA, authentication, confidentiality, SOAP,BPM , enterprise architecture, type mapping	**07**
Q.5	**(a)**	Write a brief note on: WS-BPEL	**07**
	(b)	What is Programmatic service composition? Explain it in detail.	**07**
		OR	
Q.5	**(a)**	Write a brief note on: WS-Security.	**07**
	(b)	Write a brief note on: JAXB 2.0.	**07**

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