Answers from UT3 that needs understanding

1. Why Soap is used as message communication among web services?

As web services needs to work interoperable over multiple platforms, it uses SOAP which is a platform independent messaging protocol that works along with wide range of application protocol such as Http, FTP, SMTP etc. Widely used is Http, which embeds SOAP message in its payload.

1. When do you use BPEL for composing? Why?

Services from different Business-to-Business (B2B) partners need to be interconnected interoperable way to compose higher level services from existing process. Business Process and Execution Language (BPEL) is a specialized language used to aggregate or compose from elementary or composite web services.

1. Why traditional atomic services are not suitable for web services?

Traditionally, distributed computing systems have used transactions to ensure the ACID properties (atomicity, consistency, isolation, and durability) of multiple units of work which are perceived as a single activity. Unlike traditional deployments of component‑based distributed applications, applications built around Web Services do not have the ownership of their building blocks. Hence, it needs a separate description of a Web Service expressive to capture the transactional properties of the service.

1. Question 7a not needed
2. Shortcomings of using SOAP message communication

* In SOAP specification, security facilities are extension, end to end security is not possible
* Verbosity of the protocol, heavy-weight message autonomous message
* slow parsing speed of XML
* Because SOAP deals with objects serialized to plain text and not with stringified remote object references, distributed garbage collection is not supported
* SOAP clients do not hold any stateful references to remote objects

1. Differentiate Orchestration and choreography.

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| Orchestration | Choreography |
| 1. Service orchestration represents a single centralized executable business process (the orchestrator) that coordinates the interaction among different services | 1. Service choreography is a global description of the participating services, which is defined by exchange of messages, rules of interaction and agreements between two or more endpoints. |
| 1. Orchestration employs a centralized approach for service composition | 2. Choreography employs a decentralized approach for service composition |
| 3. orchestration represents control from  one party's perspective | 3. choreography describes the interactions between multiple services |

11 a. Advantages of using Ws-Security

WS-Security is a standard to provide an interoperability framework for performing security functions through SOAP

WS-Security is used to guarantee confidentiality and integrity to SOAP messages using XML Encryption and XML Signature

It provides a common mechanism for describing credentials, so that a wide range of authentication mechanisms can be used (Kerberos, X.509, standard usernames and passwords).