(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 5Marks)   (15M)
(a)   Multiple Choice Questions   (5M)
        1.   _____is the endpoint to test your service through tester for JAX-WS.
                a) http://localhost:8080/app-name/service-name?Tester
                b) http://localhost:8080/app-name/service-name?WebServiceTester
                c) http://localhost:8080/app-name/service-name?WSDL
                d) http://localhost:8080/app-name/service-name?WSDLTester

        2.   _____indicates that web method has only an input message and no
                output.
                a) Request/Response   b) Two-way   c) One-way   d) None of these

        3.   Which of the following is not a valid HTTP method used in RESTful web
                services?
                a) OPTIONS   b) DATE   c) GET   d) POST

        4.   Which of the following HTTP Status code means NOT MODIFIED, used
                to reduce network bandwidth usage in case of conditional GET requests?
                a) 200   b) 201   c) 204   d) 304

        5.   A WCF service is exposed to the world as a collection of_____.
                a) Messages   b) endpoints   c) services   d) None of these

(b)   Fill in the blanks   (5M)
        (Use these pool of options - channels, payload, UDDI, Granularity, JSR353)
        1.   Web services can be discovered using_____.
        2.   Service_____refers to the scope of functionality exposed by a service.
        3.   The request data which is present in the body part of every HTTP message
                is referred as_____.
        4.   _____is Java API for JSON Processing.
        5.   The messaging layer in a WCF Architecture is composed of_____.

(c)   Give short answers in 1-2 sentences   (5M)
        1.   What is XML?
        2.   Define Informational/Type I service?
        3.   What is a Jersey Client?
        4.   Define HATEOAS.
        5.   What is .NET Framework Client Profile?

Q. 2 **Attempt the following (Any THREE)(Each of 5Marks)** **(15M)**
  (a) What is SOAP? Explain in detail.
  (b) Write a short note on fault element in SOAP.
  (c) Describe the structure of WSDL document.
  (d) Explain the Client Service Model with respect to Web Service.
  (e) Describe in brief any one of the SOAP communication models.
  (f) Write a web service method that accepts two numbers as parameters and returns the value of addition of those numbers using JAX-WS. **(Write only the Webservice method block)**

Q. 3 **Attempt the following (Any THREE) (Each of 5Marks)** **(15M)**
  (a) Write a short note on Swagger with respect to JAX-RS.
  (b) List and explain any five JAVA frameworks for building RESTful web services.
  (c) Describe the characteristics required for Good Resource Representation.
  (d) Explain HTTP and its working with a neat diagram.
  (e) Write a note on HTTP basic authentication.
  (f) Describe the Media Type Annotation in JAX-RS APIs.

Q. 4 **Attempt the following (Any THREE) (Each of 5Marks)** **(15M)**
  (a) Write down the steps to create a Windows Communication Foundation Client.
  (b) Explain different environment of hosting web services.
  (c) Explain the Features of WCF in detail.
  (d) Write a note on Quality of Service (QoS) for Webservices.
  (e) What do you mean by Service Contract? Explain in detail.
  (f) What do you mean by Operation Contract? Explain in detail.

Q. 5 **Attempt the following (Any THREE) (Each of 5Marks)** **(15M)**
  (a) Write a short note on Web Service Development Lifecycle.
  (b) List and explain the core constraint of RESTful system.
  (c) What is Windows Communications Foundation?
  (d) Describe the characteristics of Inter-process communication.
  (e) How does data exchange happens using JSON in JAX-RS? Explain.

****

59035

52D665BA610210D6637CEC2F49E51094