NIBM

NATIONAL INSTITUTE OF BUSINESS MANAGEMENT

Higher National Diploma in Information System Management (HNDISM20.1F/CO)

BSc (Hons) Computing-2nd Year [HIGHER DIPLOMA IN SOFTWARE ENGINEERING] (HDSE20.1F/CO)

ENTERPRICE APPLICATION DEVELOPMENT -2

10th February, 2021, 01:00 pm - 03:00 pm

(2 Hours 0 Minutes)

Answer all the questions Equal marks will be given to all questions.

1.

    I.   Describe what an Enterprise application is. **(5 marks)**

    II.   Briefly explain what a distributed application is. **(4 marks)**

    III.   List down the types of session beans in EJB and their usage. **(8 marks)**

    IV.   What are synchronous and asynchronous communication? Briefly explain. **(4 marks)**

    V.   Briefly explain Point-to-Point and Publisher/Subscriber messaging domains. **(4 marks)**

2.

    I.   Draw and explain the MVC architecture and clearly illustrate the interconnection between each of the components. **(5 marks)**

    II.   Explain Servlet life cycle. **(6 marks)**

    III.   Briefly explain the difference between JSP include action and include directive. **(4 marks)**

    IV.   Differentiate between JSP Scriptlet tag and Declaration tag. **(3 marks)**

    V.   How useful are web application frameworks? Briefly explain. **(7 marks)**

3.

    I.   State the components of HTTP request and HTTP response. Explain each component. **(4 marks)**

    II.   Explain REST. **(5 marks)**

    III.   List down four commonly used HTTP methods in a REST based architecture. Briefly explain the usage of those methods. **(6 marks)**

    IV.   Explain key characteristics of REST. **(5 marks)**

    V.   Is REST interoperable? Explain. **(5 marks)**

4.

    I.   Explain monolith architecture. List down its advantages and disadvantages. **(8 marks)**

    II.   Why would you opt for Microservices architecture for an Enterprise application? **(8 marks)**

    III.   Explain Service Registry in distributed services.**(3 marks)**

    IV.   Describe how microservice architecture increase the availability of a system. **(3 marks)**

    V.   Describe what is meant by 'single point of failure' (SPOF). Also, explain how you can avoid SPOF in microservices architecture. **(3 marks)**