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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.Tech(IT)/(Full Time) - END SEMESTER EXAMINATIONS, APRIL / MAY 2024

INFORMATION TECHNOLOGY

VI – SIXTH SEMESTER

IT5028 & SERVICE ORIENTED ARCHITECTURE AND MICROSERVICES
(Regulation2019)

Time:3hrs

Max.Marks: 100

CO1	To understand the basic principles of service orientation.
CO2	To analyze various software architectures
CO3	To introduce service-oriented and micro-services architecture
CO4	To analyze and implement web service based applications.
CO5	To understand the technology underlying service design and micro-services applications.

BL – Bloom's Taxonomy Levels

(L1- Remembering, L2- Understanding L3- Applying, L4- Analysing, L5- Evaluating, L6- Creating)

PART- A(10x2=20Marks)

(Answer all Questions)

Q.No	Questions	Marks	CO	BL
1	Define design patterns ? Is it universal - justify.	2	CO1	L2
2	Internet Banking – Explain the “Data Contract and Service contract” in context of SOA.	2	CO1	L2
3	How to get architecture right?	2	CO2	L2
4	Upon developing a Mobile phone Pay application, explain the SOA involved in it.	2	CO2	L3
5	“RESTful Web Services is a predominant design model” – Explain Why?. What is the counter-part for it?	2	CO3	L3
6	Explain statelessness in Web Services	2	CO3	L1
7	Draw the SOAP envelope for applying an Identity card in an Educational Institution.	2	CO4	L3
8	Explain Meta Data with respect to SEMS.	2	CO4	L3
9	“Containers are well-suited to Microservices “ – Justify	2	CO5	L4
10	“ Develop a Aadhar Verification System “ – Monolithic or Microservices Architecture. Which architecture to choose and Why?	2	CO5	L4

PART- B(5x 13=65Marks)

Q.No	Questions	Marks	CO	BL
11 (a) (i)	Draw and explain Strawman architecture for enterprise-wide SOA for scenario " Kurushetra Organising Committee 2024".	13	CO1	L3
OR				
11 (b) (i)	Scenario – Under any Natural Disaster situation, a human being should be allowed to make an SOS. Upon which The location and the category of the situation should be made available to the NDRF (National Disaster Response Force) immediately.	13	CO1	L3
	Given the above scenario - Bring out the architecture right.			
12 (a) (i)	Draw and explain (Level- 0, High Level Architecture) solution architecture for a Loan Management System	13	CO	

12 (b) (i)	Explain with a neat diagram (Level – 1: Baseline Architecture) for Loan Processing System.	13	CO2	L3
13 (a) (i)	Define MiddleWare Technologies. What is the need for it? Draw IOT Middle Ware for an Enterprise that implements Home Automation.	13	CO3	L3
OR				
13 (b) (i)	Draw and Explain Web Services Standards in JAVA.	13	CO3	L3
14 (a) (i)	Design an Activity service for a Loan Application with relevant Diagram and pseudocode.	13	CO4	L3
OR				
14 (b) (i)	Design a Data Services and Client Services for an enterprise that provides Cyber Security for Internet Banking with appropriate Diagram	13	CO4	L3
15 (a) (i)	Discuss with relevant diagram about the Micro Services Discovery Framework.	13	CO5	L1
OR				
15 (b) (i)	Write the Coding, Documentation and testing strategies for MicroServices.	13	CO5	L1

PART- C(1x 15=15Marks)

(Q.No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16.	Expain the following in detail i)Web Services, XML and SOAP ii)WSDL and UDDI	9 6	CO2	L1

