# Vidyavardhini's College of Engineering and Technology

## Department of Artificial Intelligence & Data Science

AY: 2024-25

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|---|---|---|---|
| **Class:** | TE | **Semester:** | V |
| **Course Code:** | CSC501 | **Course Name:** | CN |

| | |
|---|---|
| **Name of Student:** | Sainath Khot |
| **Roll No. :** | 20 |
| **Assignment No.:** | 5 |
| **Title of Assignment:** | CISCO Architectum |
| **Date of Submission:** | |
| **Date of Correction:** | |

### Evaluation

| Performance Indicator | Max. Marks | Marks Obtained |
|---|---|---|
| Completeness | 5 | 04 |
| Demonstrated Knowledge | 3 | 02 |
| Legibility | 2 | 02 |
| Total | 10 | 08 |

| Performance Indicator | Exceed Expectations (EE) | Meet Expectations (ME) | Below Expectations (BE) |
|---|---|---|---|
| Completeness | 5 | 3-4 | 1-2 |
| Demonstrated Knowledge Legibility | 3 | 2 | 1 |
| Legibility | 2 | 1 | 0 |

### Checked by

**Name of Faculty** : Miss Sneha Yadav

**Signature** :

**Date** : 18/10/24

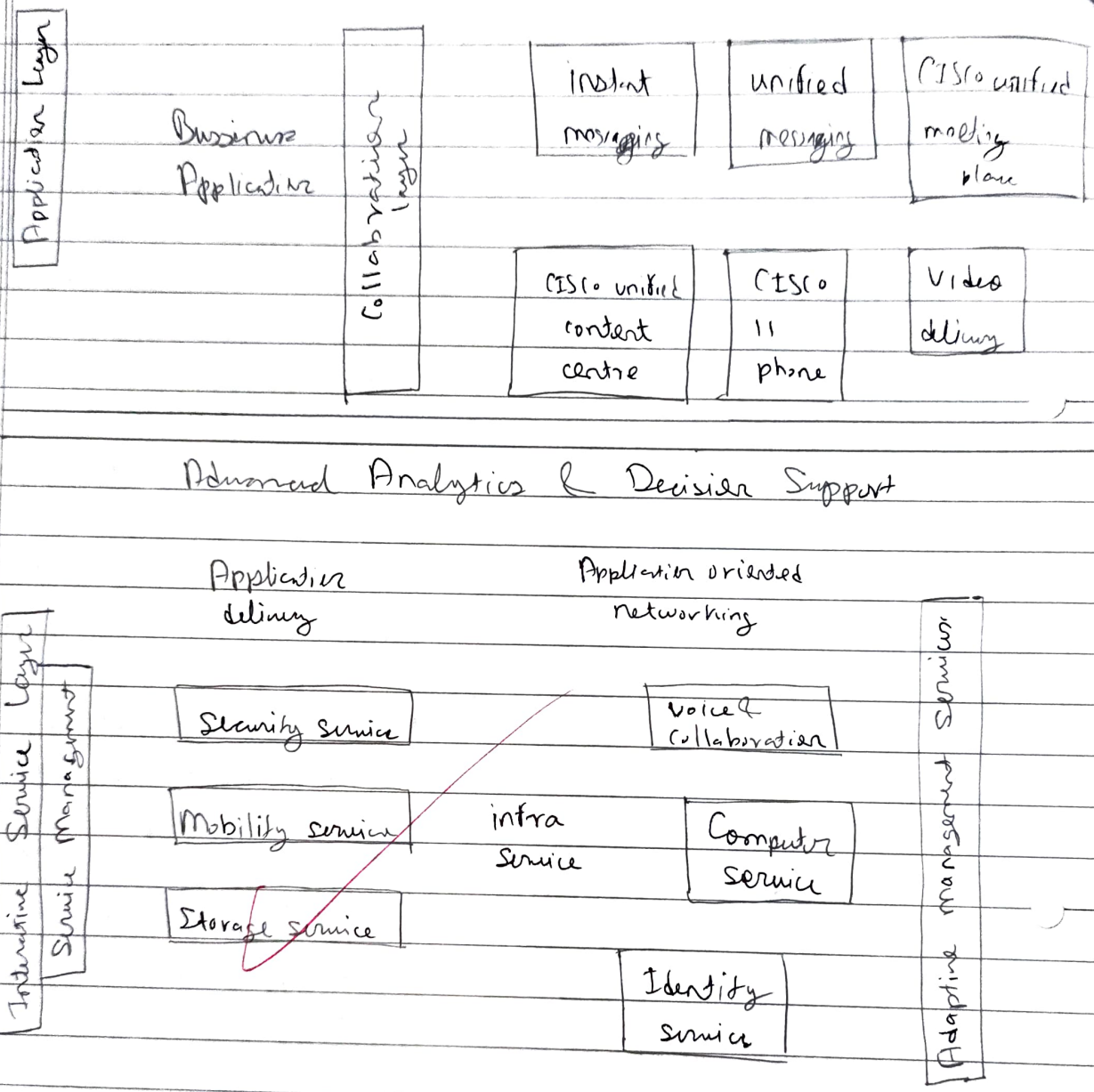
(N Assignment)

Q1. A company allows employees to bring their own devices (laptops, tablets, personal phones) to the workplace & used to access company resources while maintaining user experience with appropriate diagram show how CISCO SOAP framework provides guidance on designing & implementing a network architecture.

=) The CISCO service oriented network architecture (SONA) approach provides a standard design for designing networks that link network services with applications to drive business value by

- Enabling rapid adoption & development of new application services at a reduced cost of development & overhead.
- Co-ordinating application & network events, with business process to speed business agility
- Aligning network resources to application to meet business objectives

CISCO SOMA Architecture Diagram




CISCO Service oriented network Architecture

1. The networked infrastructure layer
- This layer is where all the IT resources are interconnected across a converged network foundation.
- The network is where all infrastructure layer represent how these resources exist in different places in the network including campus, branch, WAN, MAN and teleworker.
- The objective for customers in this layer is to have anywhere and anytime connectivity.
- The CISCO SONA infrastructure provides a flexible network based approach to business & technology

2. The interactive service layer
- At the interactive service layer, CISCO integrates a complete suit of service into intelligent system that optimise the delivery of business & collaboration applications for more predictable & reliable performance, while lowering operating costs
- This layers enables efficient allocation of resources to applications & business process delivered through the network.
- The integrated network service layer holds key network infrastructure service, including, security, mobility storage unified communication & identity.

3 Application layer

- At the application layer by duply integrating with the network fabrics, CISCO application networking solution required no client installation or application changes while maintaining application visibility & security throughout application delivery.
- The objective for customers in this layer are to met bussiness requirements & achieve efficiency by leaving the interactive service layer.

Q2) Financial instution its modernizing its data centre to support growing demands, increased security & improved performance for its real time transaction processing pro systems Identify the phase of PPDIOO methodology to ensure that networks are designed deployed & maintained

1) Prepare

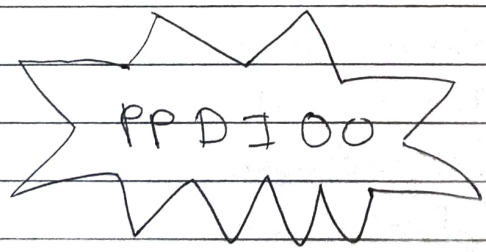
2) Plan

3) Design

4) Implement

5) Operate

6) Optimise



1) Prepare phase:
- The prepare phase involves establishing the organisational requirement, developing a network strategy & proposing a high level conceptual architecture that can best support the architecture.
- Financial justification for the network strategy the architecture.
- Financial justification for the network strategy is established by assessing the business case for proposed architecture.

2 Plan phase
- This phase involves identification of the network requirement which are base on the goals of network where the network will be installed will require which network service se forth.

3) Design phase:
- The initial requirement determined in the plane phase drive the network design specialist activities.
- They specialist design the network according to those initial requirement, incorporating additional data gathered during network onbid.

4) Implement phase.
- Implement phase & verification begins after the design has been approat.
- The network & any additional component, are built.

without disrupting existing networks.

5) Operate phase:

- Operation is the final test of the design approaching. The operating phase involves maintaining network health through day to day operation which will including maintaining high availability & reducing expenses.

6) Optimize phase

- optimize phase is based on present network management the goal of which is to identify & resolve issues before real problems arise the organization is affected.