



Report of



**Expert talk on**

## **ENERGY EFFICIENT VM CONSOLIDATION IN CLOUD ENVIRONMENT**

**Under ISTE Chapter-SAL EDUCATION**

Institutional Membership No. : IM-1746

ISTE Student Chapter: GJ-051

ISTE Faculty Chapter: GU-076

Name of Institute: SAL Institute of Technology & Engineering Research, Ahmedabad

Date: 17/12/24

The session on "**Energy Efficient VM Consolidation in Cloud Environment**" was conducted by the esteemed speaker **Dr. Nimisha Patel**, Head of CE/CSE/ICT Department and Professor, Sal Institute of Technology and Engineering Research, in the presence of our 43 respected faculties. This expert talk explored strategies to optimize resource utilization and reduce energy consumption in cloud data centers through effective virtual machine (VM) consolidation techniques. The session highlighted the challenges of managing dynamic workloads, minimizing energy costs, and ensuring service-level agreements (SLAs) are met. Advanced algorithms and approaches, such as workload prediction, dynamic VM placement, and resource management, were discussed to achieve energy efficiency. The talk underscored the critical role of energy-efficient practices in sustainable cloud computing and their impact on reducing the carbon footprint of large-scale data centers.

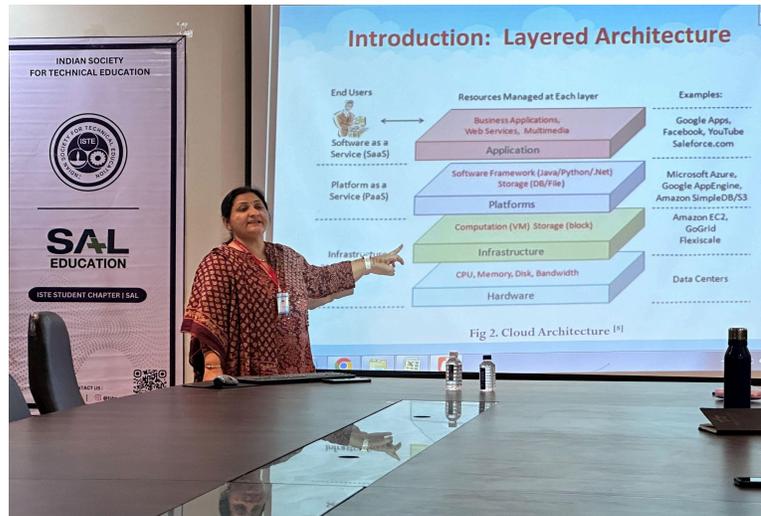
### **Topics covered:**

The main objectives of an FDP are as follows:

1. Introduction to Cloud Computing and Virtual Machines
2. Energy Consumption Challenges in Cloud Data Centers
3. Overview of VM Consolidation Techniques
4. Power Management Strategies in Cloud Environments
5. Load Balancing and Overload Detection Methods

6. Impact of Live Migration on Energy Efficiency
7. Performance vs. Energy Trade-offs
8. Future Trends in Energy-Efficient Cloud Management

## **Photos of the Programme:**



**Coordinator**  
**Prof. Sachi Bhavsar**

**Dr. Ajay Upadhyaya**  
**Chairman, ISTE-Chapter SAL Education**