Date	
Team ID	LTVIP2026TMIDS79123
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Marks	4 Marks

Solution Architecture:

Workflow for Role-Based Access Control and Task Management

1. **User Identification and Role Assignment**
   o Each team member is assigned a role upon onboarding (e.g., Project Manager, Team Member).
   o Roles determine the level of access and control over project resources and tasks.
2. **Task Creation and Allocation**
   o The Project Manager creates tasks and assigns them to specific team members based on their roles.
   o Tasks are categorized by priority, deadline, and required skills.
3. **Access Control Implementation**
   o Role-based permissions ensure that users only access relevant tools, documents, and information.
   o Admin rights remain with the Project Manager, while members access only assigned task zones.
4. **Task Execution and Status Updates**
   o Team members execute tasks and regularly update progress within the system.
   o Each status change (e.g., In Progress, Blocked, Completed) triggers a notification to the relevant stakeholders.
5. **Review and Feedback**
   o The Project Manager reviews task outputs and provides feedback or approvals.
   o A feedback loop ensures continuous improvement and knowledge transfer.
6. **Reporting and Documentation**
   o The system generates reports on task completion, timelines, and performance.
   o These insights help in future project planning and accountability.

Example - Solution Architecture Diagram:

Figure 1: Architecture and data flow of the Optimizing User, Group, and Role Management with Access Control and Workflows

Optimizing User, Group, and Role Management with Access Control Workflow

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┌─────────────────────┐        ┌─────────────────────┐
│  User               │───────▶│  Role               │
│  Management          │        │  Management         │
├─────────────────────┤        ├─────────────────────┤
│  Manage users       │        │  Define user roles  │
│  and groups         │        │  (e.g. Project      │
│                     │        │  Manager,           │
│                     │        │  Team Member)       │
└─────────────────────┘        └─────────────────────┘

┌─────────────────────┐        ┌─────────────────────┐
│  Access             │───────▶│  Task               │
│  Control            │        │  Assignment         │
├─────────────────────┤        ├─────────────────────┤
│  Assign permissions │        │  Assign tasks       │
│  based on roles     │        │  to users           │
└─────────────────────┘        └─────────────────────┘

┌─────────────────────┐        ┌─────────────────────┐
│  Approval           │◀───────│  Task               │
│                     │        │  Updates            │
├─────────────────────┤        ├─────────────────────┤
│  Approve tasks      │        │  Update task status │
│  if required        │        │                     │
└─────────────────────┘        └─────────────────────┘

┌─────────────────────┐        ┌─────────────────────┐
│  Audit              │        │  Workflow           │
│  and Reporting      │        │  Automation         │
├─────────────────────┤        ├─────────────────────┤
│  Review user        │        │  Automate task      │
│  activities end     │        │  assignmenl         │
│  generate reports   │        │  and approval       │
└─────────────────────┘        └─────────────────────┘

┌───────────────────────────────────────────────────┐
│              Project Management                    │
├───────────────────────────────────────────────────┤
│              Track project progress                │
└───────────────────────────────────────────────────┘
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