KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY

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Sub : **Cloud Computing**

Activity - 4

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Q1) Read the following case study and answer:

- Your company has developed a new mobile app that became very popular in a short time. The App is hosted in a cloud platform that is facing ~~imminent~~ intermittient connectivity issues. As a result, some users are unable to access the app or experiencing slow ~~connection~~ performance. The issue is impacting the company's reputation and revenue. As the CTO you are tasked with addressing the issue and ensuring that the app is highly ~~and~~ available and performs well.

- Identify the root cause of the connectivity issues and ~~and~~ describe the steps you would take to ~~a~~ resolve the issue

→ Step 1 Identify the Root Cause
- Monitoring and Data Analysis to search for connectivity issue patterns, performance and availability
- Engagement with cloud Platform Provider to determine if issue is in their side, like server, network or other infrastructural components
- Internal Review — check app's cloud configuration, review load balancing policies, resource allocation, network setup, geographical distribution
- User Feedback — understand user experiences and find common trends like geographic location, time of day...

Step 2 — Develop a Resolution Plan
- Infrastructure improvements — check for overloaded servers, insufficient resources.
- Redundancy and Failover Strategies —
- Network Improvements — consider using a content delivery network to improve app delivery speed
- Code Optimization — improve code for better performance. Reduce data transfer size, optimize database queries

Step 3 <u>Implement the solution</u> without introducing new
problems

Step 4 <u>Testing and Feedback</u>
  - ensure thorough testing to ensure that app performs
    well under various circumstances

~~Step 5~~

By systematically addressing the root cause of the connectivity
issue and implementing a comprehensive resolution plan, we can
improve the availability and performance of our mobile app
therefore safeguarding our company's reputation and
revenue

Q2) Discuss the integration of wireless sensor network
    with Cloud Computing Environment and its applications

Steps for Integration

1) <u>Data Collection</u> — Wireless Sensor Network consists of
   spatially distributed autonomous sensors that monitor
   physical or environmental conditions. These sensors collect
   data from environment

2) <u>Data Transmission</u> — Collected data is transmitted over a
   wireless network to a central processing unit

3) <u>Cloud Integration</u> — Clouds scalable resources are used

4) Data Processing and Analysis —

Applications
  - Smart Agriculture, Industrial Automation, Home Automation,
    Smart Cities, Healthcare, Smart ~~Agriculture~~ Environment monitor
    monitoring

Benefits
  - Scalability
  - Flexibility
  - Cost effectiveness
  - Data management
  - Real time processing

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