PGDM / PGDM FINTECH Program
THIRD TRIMESTER (Batch: 2024-26)
END-TERM EXAMINATION, APRIL 2025

Course Name	Cloud Computing	Course Code	
Duration	Three Hours	Max. Marks	60

Instructions:

1. All the questions are compulsory

2. **Read all questions carefully:** Ensure that you fully understand each question before attempting to answer. Provide clear and concise responses, adhering to the specific instructions given for each section.

3. **No unauthorized materials:** The use of books, notes, or electronic devices (unless explicitly permitted) is prohibited.

Q.1 Problem Statement:

A FinTech startup, NeoBank, provides personalized savings recommendations based on customer transaction data. The company now wants to shift from manual Excel-based reporting to a fully automated ETL pipeline using Python and cloud infrastructure.

They store local transaction files (CSV) on-premises and want to:

- **Extract the data**

- **Transform it (cleaning, currency conversion, deduplication)**

- **Load it into a secure cloud database (AWS)**

Additionally, they aim to visualize insights using dashboards and generate alerts for suspicious activity.

Question:
As a Cloud-Data Engineer consultant, explain how you would design the ETL pipeline using Python and cloud services. Your answer must include:

- **The end-to-end flow (from extraction to loading)**

- **Tools and services used at each stage (e.g., Pandas, Boto3, SQLAlchemy)**

- A simple Python code snippet for any one stage of the pipeline

- How this pipeline helps with compliance, scalability, and fraud detection in FinTech

Marks: 20 (CO:01)

Q.2 Understanding Cloud Services in Business Terms

A. In simple terms, explain what the following are with easy examples from banking or finance apps:

- IaaS (Infrastructure as a Service)
- PaaS (Platform as a Service)
- SaaS (Software as a Service)

B. Why are cloud databases often preferred by FinTech companies over traditional systems like Excel or offline databases? Marks:10 (CO:02)

Q.3 Case Study:

You are a business consultant hired by a growing FinTech startup called FinSmart, which offers AI-based budgeting and credit tools to young professionals. The company is expanding quickly and is unsure which type of cloud model (public, private, or hybrid) they should use to manage their data and applications.

They are concerned about:

- Data privacy, especially for sensitive financial information

- Cost-effectiveness, as they are still in a growth phase

- Scalability, to handle more users during peak times

- Integration with partner banks and payment gateways

Question:

As a consultant, explain to FinSmart:

A. Differentiate between Public, Private, and Hybrid cloud models — in simple business terms and suitable examples.

B. Which model would you recommend and why, considering their business needs?
C. How cloud choice affects customer trust, data security, and business growth?

Use examples to support your recommendations (e.g., AWS, on-premise servers, etc.).
Marks:15 (CO:03)

Q.4 Background:

You are part of the strategy team at GrowWealth, a mobile app that helps young professionals invest in mutual funds, gold, and digital assets. The app offers features like investment tracking, automatic savings, and personalized portfolio advice.

The company has started gaining thousands of new users after a recent marketing campaign, and management is concerned about whether their current systems can handle the growth.

The CEO brings up these questions:

- "Should we invest more in our own servers or shift fully to the cloud?"

- "How do we keep costs predictable while growing?"

- "How do we make sure customer data stays safe, even if we scale rapidly?"

Question:

As an MBA intern in the cloud strategy team, help answer the CEO's concerns by explaining:

A. Why growing companies often move to cloud-based systems instead of buying their own servers

B. How cloud services can support both scalability (handling more users) and data privacy at the same time

Marks:15

(CO:04)