**Chapter 01: Section 2, 3 and 4**

## Blackflush Accounting

### Practice Question 23:

**Scenario:** BlueGem Textiles operates a Just-in-Time manufacturing system for its high-volume basic t-shirt line and uses backflush accounting. The system has two trigger points:

1. Purchase of raw materials.
2. Completion of finished goods.

The company produces t-shirts with the following standard costs per unit:

- Direct Materials (fabric, thread, labels): Rs. 500
- Conversion Costs (Labour & Overhead): Rs. 300
- Total Standard Cost: Rs. 800

The following transactions occurred in May:

- a) Purchased raw materials on credit for Rs. 5,500,000.
- b) Incurred actual conversion costs of Rs. 2,850,000 (paid in cash).
- c) Completed 10,000 units of finished t-shirts.
- d) Sold 9,500 t-shirts on credit for Rs. 1,500 per unit.

What would be the accounting entries to be passed in line with throughput accounting?

### Practice Question 24:

#### Scenario

SwiftWear Apparel operates a **Just-in-Time (JIT)** manufacturing system for its mass-produced sports jersey line and applies **backflush accounting**. The system uses **two trigger points**:

1. Purchase of raw materials
2. Completion of finished goods

The company manufactures jerseys with the following **standard costs per unit**:

- **Direct Materials (fabric, printing, trims):** Rs. 600
- **Conversion Costs (Labour & Overhead):** Rs. 350

- **Total Standard Cost:** Rs. 950

The following transactions took place during June:

a) Purchased raw materials on credit for **Rs. 6,300,000**.
b) Incurred actual conversion costs amounting to **Rs. 3,150,000**, paid in cash.
c) Completed **9,000 units** of finished jerseys during the month.
d) Sold **8,400 jerseys** on credit at **Rs. 1,600 per unit**.

## Analytics Return on Investment (ROI)

### Practice Question 25:

Palmnest Foods is considering an investment in a predictive maintenance system for its beverage production line to reduce equipment downtime and maintenance costs. The Chief Financial Officer has asked for a clear Return on Investment (ROI) calculation to justify the expenditure.

**Given Information:**

- **Investment Costs:**
  - Software Licenses: Rs. 2,000,000
  - Cloud Infrastructure: Rs. 500,000 per year
  - Personnel Time (Implementation & Training): Rs. 3,000,000
- **Annual Benefits (Projected):**
  - Cost Savings from reduced unplanned downtime: Rs. 7,500,000
  - Revenue Increase from higher production uptime: Rs. 4,000,000

Calculate analytics return on investment

### Practice Question 26:

BlueGem Textiles has developed a machine learning model to forecast monthly sales demand for one of its garment product lines. As a management accountant, you must validate the model's accuracy before it is used for financial planning. You have been given the actual sales data and the model's forecasts for the last six months.

**Given Information:**

| Month | Actual Sales (Units) | Forecasted Sales (Units) |
|---|---|---|
| January | 1,200 | 1,150 |
| February | 1,250 | 1,300 |
| March | 1,300 | 1,320 |
| April | 1,100 | 1,180 |
| May | 1,400 | 1,350 |
| June | 1,500 | 1,420 |

## Practice Question 27:

Zenith Logistics wants to test a new digital marketing campaign aimed at increasing service bookings. They conduct an A/B test by showing the new campaign to a test group (Group B) and the old campaign to a control group (Group A).

Given Information:

- **Group A (Control):**
  - Number of customers reached: 10,000
  - Conversion rate (booked a service): 2.0%
  - Average revenue per booking: Rs. 25,000
- **Group B (Test):**
  - Number of customers reached: 10,000
  - Conversion rate (booked a service): 2.5%
  - Average revenue per booking: Rs. 25,000
- **Cost of developing the new campaign:** Rs. 150,000

Is the new campaign feasible?

# Financial Close Automation

## Practice Question 28:

Oceanleaf Exports is considering automating its month-end financial close process. The current manual process takes 10 working days to complete, requiring two management accountants who each work 8 hours per day on this task. The fully-loaded cost (salary plus benefits) for each management accountant is Rs. 8,000 per day. The proposed automation solution is projected to reduce the close cycle to just 3 working days.

Calculate the total time saved and the associated monthly cost savings.

## Digital Return on Investment (ROI)

### Practice Question 29:

BlueGem Textiles is evaluating an investment in a new ERP system. The total investment cost, including software, implementation, and training, is Rs. 25,000,000. The management accounting team has projected the following annual benefits based on the system's capabilities:

- **Direct Cost Savings:** Reduced fabric wastage and better inventory management are expected to save Rs. 650,000 annually. Automation of manual data entry will save an additional Rs. 1,200,000 in administrative staff costs.
- **Revenue Enhancements:** The system's ability to handle complex orders and provide faster prototyping will enable the company to secure premium contracts, projected to generate an additional Rs. 2,500,000 in annual revenue.

Calculate the Digital ROI and the Payback Period for this investment.

## Quantifying the Financial Impact of Accuracy Improvements

### Practice Question 30:

Mango Holdings processes inter-divisional transactions valued at Rs. 500,000,000 annually across its subsidiaries. Due to manual data entry in two divisions, the company experiences a 7% error rate on these transactions. Each error requires, on average, 1.5 hours of a finance officer's time to identify, investigate, and correct. The fully-loaded cost of a finance officer is Rs. 2,000 per hour.

Assuming an average transaction value to be Rs 50,000/-,

Calculate the annual cost of these data errors. Then, calculate the potential annual savings if a new system reduces the error rate to 0.5%.

## Anomaly Detection

### Practice Question 31:

An AI-powered anomaly detection system at Mango Holdings monitors employee expense claims in real-time across all its subsidiaries. An employee, who normally submits claims averaging Rs. 25,000 per month, submits a claim for Rs. 750,000 for travel expenses. The system immediately flags this as an anomaly and routes it for human review before payment processing. Upon investigation, the finance officer discovers that the correct amount was Rs. 75,000, and an extra zero was added due to a data entry error. Calculate the value of the overpayment prevented by the AI system.

## Real Time Reporting and Variance Analysis

### Practice Question 32:

A construction project at Lotus Construction has a budget of Rs. 25,000,000. The real-time reporting system tracks costs as they are incurred. The system is configured to send an automatic alert to the project manager if the project's spending exceeds its budget by more than Rs. 1,500,000. As of today, the total costs incurred are Rs. 26,750,000. Determine if an alert should be triggered.

### Practice Question 33:

The sales target for the Southern Region of Zenith Logistics is Rs. 20,000,000 for the quarter. The real-time sales dashboard shows that actual sales to date are Rs. 17,000,000. Calculate the absolute and percentage variance from the target.

## Technology Evaluation

### Practice Question 34:

BlueGem Textiles is evaluating two potential AI modules to integrate with its ERP system: 'PredictAI' and 'ForecastPro'. The evaluation team uses a weighted scoring model with the following criteria and weights: Business Value (40%), Technical Feasibility (30%), Implementation Cost (20%), and Risk Level (10%). Each module is scored on a scale of 1 (poor) to 5 (excellent). The scores are provided in the table below. Calculate the total weighted score for each module to determine the preferred option.

| Criterion | Weight | PredictAI Score | ForecastPro Score |
|---|---|---|---|
| Business Value | 40% | 5 | 4 |
| Technical Feasibility | 30% | 3 | 5 |
| Implementation Cost | 20% | 4 | 2 |
| Risk Level | 10% | 3 | 4 |

## Key Performance Indicators (KPIs)

### Practice Question 35:

Serendib Hospitality's luxury property in Galle has 150 rooms. For the month of August, the hotel generated a Gross Operating Profit (GOP) of Rs. 22,942,500. The hotel was open for all 31 days of the month. Calculate the Gross Operating profit per Available Room (GOPPAR) for August.

### Practice Question 35:

Trident Logic Ltd., a technology services company, reported the following figures for the fiscal year:

- Revenue from services: Rs. 950,000,000
- Cost of services (direct costs): Rs. 550,000,000

Calculate the company's Gross Margin and Gross Margin Percentage.