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| *000000000* **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**Post Graduate Diploma in Management (Batch 2024-26) |
| **Course Title: Management Accounting & Control, (Course Code: 40204)****End-Term Examination, Term - III (April-May, 2025)**  |
|  **Time Duration : 2 Hours Total Marks: 40** |

***General Instructions*:**

1. *Answer the questions as directed. The break-up of the marks is given wherever necessary.*
2. *Marks against each question is indicated to its right.*
3. *Answer all the questions of a ‘Section/Question’ at one place in continuation.*
4. *Answers should be brief and to the point.*
5. *Do not write on the question paper except your roll number.*
6. *Use of a calculator, including scientific or financial, is allowed.*
7. *Do not use pencils to answer the questions.*
8. *Answers without proper analysis will be treated as incomplete.*
9. *Answer all the questions.*

**Q. 1** Pixel Studio, Inc., is a small company that creates computer-generated animations for films and television. Much of the company's work consists of short commercials for television, but the company also does realistic computer animations for special effects in movies.

The young founders of the company have become increasingly concerned with the economics of the business-particularly since many competitors have sprung up recently in the local area. To help understand the company's cost structure, an activity-based costing system has been designed.

Three major activities are carried out in the company: animation concept, animation production, and contract administration. The animation concept activity is carried out at the contract proposal stage when the company bids on projects. This is an intensive activity that involves individuals from all parts of the company in creating story boards and prototype stills to be shown to the prospective client.

Once a project is accepted by the client, the animation goes into production and contract administration begins. Almost all of the work involved in animation production is done by the technical staff, whereas the administrative staff is largely responsible for contract administration.

The activity cost pools, and their activity measures are listed below:

|  |  |  |
| --- | --- | --- |
| **Activity Cost Pool** | **Activity Measure** | **Activity Rate** |
| Animation concept | Number of proposals | $6,040 per proposal |
| Animation production | Minutes of completed animation | $7,725 per minute |
| Contract administration | Number of contracts | $6,800 per contract |

These activity rates include all of the company's costs, except for its organization-sustaining costs and idle capacity costs. There are no direct labour or direct materials costs.

Preliminary analysis using these activity rates has indicated that the local commercial segment of the market may be unprofitable. This segment is highly competitive. Producers of local commercials may ask three or four companies like Pixel Studio to bid, which results in an unusually low ratio of accepted contracts to bids.

Furthermore, the animation sequences are much shorter for local commercials than for other work. Since animation work is billed at fairly standard rates according to the running time of the completed animation, this means that the revenues from these short projects tend to be below average. Data concerning activity in the local commercial market appear below:

|  |  |
| --- | --- |
| **Activity Measure** | **Local Commercials** |
| Number of proposals | 25 |
| Minutes of completed animation | 5 |
| Number of contracts | 10 |

The total sales from the 10 contracts for local commercials was $180,000.

**Required:**

1. Calculate the cost of serving the local commercial market. **(6 Marks)**
2. Calculate the margin earned serving the local commercial market. (Remember, this company has no direct materials or direct labour costs.) **(5 Marks)**
3. What would you recommend to management concerning the local commercial market? **(4 Marks)**

**Q.2** Fright‑Proof Commuter Airlines (FCA) is a regional carrier specializing in short-haul flights between mid-sized cities. With a fleet of modern turboprop aircraft, FCA has built its reputation on reliability, punctuality, and competitive fares. Over the past two years, the airline has achieved modest profitability by focusing on underserved city pairs with limited ground‑transport alternatives.

Market research indicates growing business and leisure travel demand between Metro (a bustling economic hub) and Hicksville (a popular suburban destination 200 miles away). Currently, no other airline serves this direct route, and driving takes nearly four hours. FCA’s management believes adding a daily Metro–Hicksville flight could capture both commuter traffic and weekend tourists—provided the route can cover its costs and deliver a reasonable return.

FCA intends to price the new flight affordably to stimulate demand, while ensuring operating viability. The projected per‑flight costs and revenues are:

| Item | Amount |
| --- | --- |
| Selling price per passenger (fare) | $ 80 |
| Variable cost per passenger (fuel, meals, etc.) | $ 20 |
| Fixed cost per flight (crew, maintenance, airport fees) | $ 2,400 |
| Aircraft capacity per flight | 70 passengers |
| Corporate income tax rate | 30% |

*Note:* Fixed costs include pilot and cabin‑crew salaries, routine maintenance reserves, landing and handling fees, and overhead allocations. Variable costs cover fuel, in‑flight services, and passenger commission expenses.

Required Analyses

1. Calculate the minimum number of passengers FCA must carry on each Metro–Hicksville flight to cover all operating costs (i.e., achieve zero profit before taxes). **(5 Marks)**
2. Determine how many passengers per flight the airline must carry to earn $1,050 in profit after taxes**. (4 Marks)**
3. Given the aircraft’s maximum capacity of 70 passengers: **(3 Marks)**
	* Can FCA realistically carry enough passengers to reach its break‑even point?
	* Can the airline achieve the passenger load required to earn $1,050 after taxes on each flight?
4. What strategies (e.g., ancillary fees, tiered pricing, cost reduction) could FCA employ to enhance route profitability without exceeding capacity**? (3 Marks)**

**Q.3** The Complete Office Company has three divisions: Layout and Marketing, Office Furniture, and Office Supplies.

* Layout and Marketing is primarily a consulting and sales group with no fixed assets and minimal current assets.
* Office Furniture is a manufacturing division with machinery for the production and assembly of desks, chairs, and modular dividers.
* The Office Supplies Division has light machinery for the packaging and distributing paper and other office supplies. It has current assets in the form of inventory and receivables, and has some fixed assets in the form of machinery.

The Complete Office Company depreciates all of its fixed assets over 10 years on a straight-line basis, and it calculates ROA (Return on Assets) on the beginning-of-year gross book value of assets.

The operating expenses for each division (excluding depreciation on fixed assets) are:

* $200,000 for Layout and Marketing
* $100,000 for Office Furniture
* $150,000 for Office Supplies

The company’s assets and gross profits for 2024 are as follows:

| Description | Layout and Marketing | Office Furniture | Office Supplies |
| --- | --- | --- | --- |
| Current assets | $200,000 | $200,000 | $200,000 |
| Fixed assets | — | $1,000,000 | $500,000 |
| Total assets | $200,000 | $1,200,000 | $700,000 |
| Gross profit from sales | $400,000 | $400,000 | $400,000 |

1. Compute a Return on Assets (ROA) figure for each division for 2024. **(5 Marks)**
2. Which division is most efficient in utilizing its assets? What might be the reasons for the differences in ROA across divisions? **(2 Marks)**
3. If the company plans to invest an additional $500,000, which division should receive the investment to maximize return? **(3 Marks)**