**JAIPURIA INSTITUTE OF MANAGEMENT, INDORE**

**PGDM**

**SECOND TRIMESTER (Batch 2019-21)**

**END TERM EXAMINATION, DECEMBER-2019**

|  |  |  |  |
| --- | --- | --- | --- |
| Course Name | **Management Accounting** | Course Code | **FIN 202** |
| Max. Time | **2 hours** | Max. Marks | **60** |

**Q1 (i)** Parker Company produces an inkjet printer that sells for $150 and a laser printer that sells for $350. Last year, total manufacturing overhead costs of $1,050,000 were allocated based on direct labor hours. A total of 15,000 direct labor hours were required last year to build 12,000 inkjet printers (1.25 hours per unit), and 10,000 direct labor hours were required to build 4,000 laser printers (2.50 hours per unit). Total direct labor and direct materials costs for the year were as follows:

|  |  |  |
| --- | --- | --- |
| Particulars | **Inkjet Printer** | **Laser Printer** |
| Direct materials | $540,000 | $320,000 |
| Direct labor | $600,000 | $400,000 |

The management of Parker Company would like to use activity-based costing to allocate overhead rather than use one plant wide rate based on direct labor hours. The following estimates are for the activities and related cost drivers identified as having the greatest impact on overhead costs.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Activity** | **Estimated Overhead Costs ($)** | **Cost Driver** | **Inkjet** | **Laser** | **Total** |
| Production Runs | 400000 | Number of Production Runs | 40 | 10 | 50 |
| Quality Inspections | 250000 | Inspection Hours | 1200 | 2800 | 4000 |
| Packaging and Shipping | 400000 | Number of units shipped | 12000 | 4000 | 16000 |
| Total | 1050000 |  |  |  |  |

*Required:*

1. Using the plant wide allocation method, calculate the predetermined overhead rate and determine the overhead cost per unit for the inkjet and laser products.
2. Using activity-based costing:
   1. Calculate the predetermined overhead rate for each activity
   2. Allocate overhead to each product and determine the overhead cost per unit.
   3. Calculate the product cost per unit for the inkjet and laser products?
3. Calculate the per unit profit for each product using the plant wide approach
4. and the activity-based costing approach. Comment on the differences
5. between the results of the two approaches. **[15 Marks]**

**(ii).** The following costs are manufacturing costs for a producer of personal computers.

1. Wages of employees who conduct quality testing

2. Purchase Cost of processor chips included in the manufactured computers.

3. Property tax paid for the manufacturing facility

4. Salaries paid to a staff nurse who provides care for manufacturing employees.

5. Wages paid to assembly line employees.

6. Small screw and fasteners

Required:

Identify whether each of the above cost is Direct Material (DM), Direct Labour (DL), Indirect Material (IM), Indirect Labour (IL), or another Manufacturing Overhead Cost (MOH). **[5 Marks]**

**Q2.** Hammond Fruits Corporation wholesales peaches and oranges. Lashanda King is working with the company’s accountant to prepare next year’s budget. Ms. King estimates that sales will increase 5 percent annually for peaches and 10 percent for oranges. The current year’s sales revenue data follow.

  (In Rs.)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | First Quarter | | | Second Quarter | | | Third Quarter | | | Fourth Quarter | | | Total | | |
| Peaches |  | 234,000 |  |  | 254,000 |  |  | 314,000 |  |  | 254,000 |  |  | 1,056,000 |  |
| Oranges |  | 407,000 |  |  | 457,000 |  |  | 577,000 |  |  | 387,000 |  |  | 1,828,000 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  | 641,000 |  |  | 711,000 |  |  | 891,000 |  |  | 641,000 |  |  | 2,884,000 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | | | | | | | | | | | | | | | |

Based on the company’s past experience, cost of goods sold is usually 65 percent of sales revenue. Company policy is to keep 15 percent of the next period’s estimated cost of goods sold as the current period’s ending inventory.

Required:

1. Prepare the company’s sales budget for the next year for each quarter by individual product.
2. If the selling and administrative expenses are estimated to be Rs.6,30,000 prepare the company’s budgeted annual income statement.
3. Ms. King estimates next year’s ending inventory will be Rs.35,300 for peaches and Rs.57,500 for oranges. Prepare the company’s inventory purchases budgets for the next year showing quarterly figures by product  **[15 Marks]**

**Q3.** Hacker Aggregates mines and distributes various types of rocks. Most of the company’s rock is sold to contractors who use the product in highway construction projects. Treva Hacker, company president, believes that the company needs to advertise to increase sales. She has proposed a plan to the other managers that Hacker Aggregates spend Rs.50,00,000 on a targeted advertising campaign. The company currently sells 25,000 tons of aggregate for total revenue of Rs.25,00,00,000. Other data related to the company’s production and operational cost follow:

|  |  |
| --- | --- |
| Direct labor | 7,50,00,000 |
| Variable Production overhead | 1,00,00,000 |
| Fixed Production overhead | 1,75,00,000 |
| Selling and administrative expenses: |  |
| Variable | 25,00,000 |
| Fixed | 1,50,00,000 |

Required:

1. Compute breakeven point in units
2. Compute contribution margin ratio
3. If Treva decides to spend Rs.50, 00,000 on advertising and the company expects the advertising to increase sales by Rs.1,00,00,000 should the company go for advertising? Prepare a new projected income statement for this proposal. **[10 Marks]**

**Q4.** A Company manufactures three products. The data is given as under:

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | Product A | Product B | Product C |
| Budgeted Units | 1800 | 3000 | 1200 |
| Selling Price per Unit (Rs.) | 60 | 55 | 50 |
| Direct Material per Unit (kg) | 5 | 3 | 4 |
| Cost of Direct Material per kg | 4 | 4 | 4 |
| Direct Labour per unit (hrs.) | 4 | 3 | 2 |
| Direct Labour hour rate (Rs.) | 2 | 2 | 2 |
| Variable Overheads(Rs.) | 7 | 13 | 8 |
| Maximum possible units of sale | 4000 | 5000 | 1500 |
| Fixed Overhead (Rs.) | 60000 | | |

1. Present a statement of budgeted profit.
2. Set optimal product mix and determine the profit if the supply of labour is limited to 18600 hrs. All the three products are produced from the same direct material using the same type of machines and labour. [**15 Marks]**