

Eastern University, Sri Lanka

Faculty of Commerce and Management

Third Year First Semester Examination in Bachelor of Commerce  
(Specialization in Accounting and Finance) 2017/2018 (July 2019)

(Proper/Repeat)

DAF 3024 Advanced Cost Accounting

No. of Questions: 05

No. of Pages: 07

Time: 3:00 Hours

Calculators are permitted

Answer All Questions

01. (I) A manufacturing company produces non- standards products according to customer's specifications. All production processes pass through three departments. The details of cost information of the company for the month of June 2018 are given below.

Nature of Expenses	Total Expenses (Rs.)	Expenses by departments (Rs.)		
		A	B	C
Direct materials	18,600	7,500	6,400	4,700
Labour	15,000	6,000	5,000	4,000
Overhead	7,500	3,000	2,500	2,000
Total	41,100	16,500	13,900	10,700

Job	Cost Elements	Expenses Incurred in departments (Rs.)		
		A	B	C
X	Direct Material	1000	2000	3000
X	Direct Labour	500	600	700
Y	Direct Material	500	900	1400
Y	Direct Labour	700	600	800

In addition to the overhead, overhead premium is incurred at department A for the Job X amounted to Rs.1200 in June 2019.

**Required:**

Prepare job cost sheet and find factory profit for the Job under following difference circumstance;

- When overtime premium done at the request of customer.
- When overtime premium was given due to limited production capacity, and it was accidental that Job X was done during overtime.

(10 Marks)

- (II) An engineering company is carrying out a business that provides a range of building services. It has recently bid for two construction jobs, A and B. The price determination of these jobs was as follows.

Job	A (Rs. million)	B (Rs. million)
Total direct cost (material, labour etc.)	400	800
Common site overheads	60	120

(15% of total direct cost)		
Total job cost	460	920
10% profit markup	46	92
Price	506	1,012

The clients of the company have indicated that the offered prices were higher than the other bids. The management considers applying the activity-based costing approach and reviewing the bids. The following additional information is provided:

Common site overhead type	Expected annual overhead cost (Rs. million)	Cost driver	Expected number of activities annually
Project supervision	30	No. of site visits	2,000
Planning and monitoring	100	No. of meetings	500
Labour related overheads	200	No. of man hours	8,000,000

The following information is relevant to jobs A and B during their expected completion period.

Job	A	B
Expected job completion period	2 years	2.5 years
No. of site visits for the jobs	120	250
No. of planning and monitoring meetings for the jobs	50	190
No. of man hours for the jobs	300,000	1,400,000

**Required:**

- Assess the cost of each job based on the activity-based costing approach.
- Advise the management on discounts that can be offered for each job.
- Differentiate the activity-based costing approach from the traditional costing method.

(Total: 20)

02.

(1)

James is a cost accountant and business analyst for Doorknob Design, which manufactures expensive brass doorknobs. This company uses two cost categories: direct materials and direct manufacturing labor. James believes that manufacturing overhead is most closely related to material usage. Therefore, the company allocates manufacturing overhead to production based upon the amount of materials used.

At the beginning of 2018, budgeted annual production of 400,000 doorknobs was adopted. The company adopted the following standards for each doorknob:

Details	Input	Cost/Doorknob in Rs.
Direct materials (brass)	0.3 lb. @ Rs.10/lb	3.00
Direct manufacturing labor	1.2 hours @ Rs.20/hour	24.00
Manufacturing overhead:		
Variable	0.3 lb @ Rs.6	1.80
Fixed	0.3 lb @ Rs.15/lb	4.50
Standard cost per doorknob		33.30

Actual results for April 2018 were as follows:

Production 35,000 doorknobs

Direct materials purchased 12,000 lb. at Rs.11/lb.

Direct materials used 10,450 lb.

Direct manufacturing labor 38,500 hours for Rs. 808,500

Variable manufacturing overhead Rs. 64,150

Fixed manufacturing overhead Rs. 152,000

**Required:**

Calculate Material, Labour and Overhead variances.

**(06 Marks)**

(II) X Ltd had budgeted the following sales for the month of August 2018:

Product A: 920 units @ Rs. 150 per unit.

Product B: 750 units @ Rs.230 per unit.

The actual sales for each month were as follows:

Product A:1020 units @ Rs. 162 per unit.

Product B: 850 units @ Rs. 250 per unit.

The cost per unit of products A and B were Rs. 120 and Rs.175 respectively.

**Required:**

Compute the different variances to explain the difference between the budgeted and actual profits.

**(04 Marks)**

(III) XY Ltd. gives the following particulars relating to process A in its plant for the month of January 2019:

Work-in-progress (opening balance) in 1<sup>st</sup> January 2019 – 500 units

Material Rs. 4,800

Labour Rs. 3,200

Overhead Rs. 6,400

Units introduced during the month – 19,500

Processing costs incurred during the month:

Material Rs. 186,200

Labour Rs. 72,000

Overhead Rs. 106,400

Units transferred to next process: 18,200

Units scrapped (completely processed): 1,400

Work-in-progress (closing balance): 400

Degree of completion:

Materials – 100%

Labour and overhead – 50%

Normal loss in processing is 5% of total input and normal scrapped units make each.

**Required:**

Prepare process accounts and statement of equivalent production for the month.

(Total: 20)

03.

(I)

Kumar Ltd design and make plastic gift containers. It has received an order for containers for the coming year. This order can be produced into several batches as they wish. The engineer has advised the production manager that the containers can be made with the batch size of 25,000 units, 50,000 units, or 75,000 units.

The following costs were identified

Product design and development cost:

Engineers' time:

100 hours at Rs. 950 per hour

Draughtsman's time

350 hours at Rs. 450 per hour

Materials

Rs. 12,000

General overheads and Supervision Rs. 52,000

Setting up costs:

To setting up of the production machine for one time, requires 50 hours of engineer's time at Rs. 600 per hour.

Manufacturing costs:

Operatives are paid an hourly rate of Rs. 450 and production overheads absorbed at the rate of Rs. 200 per direct labour hour worked.

The direct material cost per container is Rs. 500

If the batch size is 75000 containers are produced, extra maintenance cost of Rs. 125000 and extra storage cost of Rs. 180,000 would be incurred.

The production machine has the capacity to produce 100 containers per hour.

**Required:**

Assign respective cost for each batch size and determine the optimum batch size which minimizes the production cost.

(II)

The following balances were extracted from the book of the Raj industry for January 2018.

	Debit	Credit
Stores Ledger control account	85000	-
Work in progress control account	65000	-
Finished goods control account	71000	-
Costs ledger control account	-	220000
Works overhead account	-	1000
	<u>221000</u>	<u>221000</u>

The following transactions took place during 2018.

	Rs.
Purchased	600000
Store issued :Production	580000
:Works repair	15000
Wages :Productive (direct)	500000
:Unproductive	58000
Works repairs	12000
Works expenses (rent, light etc)	180000
Works overhead recovered	210000
Administration expenses	65000
Administrative overhead recovered	69000
Finished goods in stock on 31 December 2018	50000
Work in Progress on 31 December 2018	45000
Goods Sold	1200000

**Required:**

Show the necessary control accounts and Costing profit and loss account

(12 Marks)

(Total: 20 Marks)

- (I) Company wants analyses the impact of labour turn over on the profit of a particular firm during the last year of 2018. The following information were given:

Sales during the year Rs. 75,200,000

PV Ratio was 18%

Actual Hours worked by workers 400,000hrs

The personal department delays in recruiting new employees which causes to loss potential working hours of 100,000hrs. The actual direct labour hours included 30000 hours attributable to training of new recruits which was considered as unproductive direct labour hours. The following cost incurred consequent to labour turnover.

Settlement cost due to leaving Rs. 160,000

Recruitment Cost Rs. 225,000

Selection cost Rs. 135,000

Training cost Rs. 384,000

Assuming that the potential production lost due to labour turnover could have been sold at prevailing prices.

**Required:**

Based on the above context calculate the cost incurred due to labour turnover.

(06 Marks)

- (II) Wally Lewis is manager of the engineering development division of Goldcoast Products. Lewis has just received a proposal signed by all 10 of his engineers to replace the workstations with network personal computers (networked PCs). Lewis is not enthusiastic about the proposal.

Data on workstations and networked PCs are:

Particulars	Workstations	Networked PCs
Original cost Rs.	300,000	135,000
Useful life	5 years	3 years

Current age	2 years	0 year
Remaining useful life	3 years	3 year
Accumulated depreciation Rs.	120,000	Not acquired
Current book value Rs.	180,000	Not acquired
Current disposal value (In cash) Rs.	95,000	Not acquired
Terminal disposal value (in cash 3 years from now)	Rs.0	Rs.
Annual computer related cash operating cost Rs.	40,000	10,000
Annual non-computer related operating cost Rs.	880,000	880,000
Annual revenues Rs.	1,000,000	1,000,000

Lewis's annual bonus includes a component based on division operating income. Lewis has a promotion possibility next year that would make him a group vice-president of Goldcoast Products.

**Required:**

- Using differential cost analysis, compare the cost of workstations and network PCs. (Consider the cumulative results for three years together, ignoring the time value of money and income tax)
- Advise the management to select optimum proposal based on its profitability.

- (III) The demand for a product is 12000 units per year. The set up cost associated with the production is Rs.50000 and the inventory holding cost is Rs.5 per unit per month. Production plant capacity is 20000 per year. Find the following.

**Required:**

- Optimal production lot size.
- Length of inventory cycle.
- Number of days per month during which production occurs.

05

- (I). Ameza enterprises secured a contract for Rs.4,500,000 and as per the Contract Agreement the contractee would pay 90% of the work certified immediately upon receipt of Architects Certificate and the balance would be paid on completion of the contract. Work was commenced on 1<sup>st</sup> April 2018. The Actual expenditure upto 31<sup>st</sup> March 2019 and the estimated expenditure upto 30<sup>th</sup> September 2019 are as follows:

Particulars	Actual Expenditure upto 31-3-2019 (Rs.)	Estimated Expenditure upto 30-09-2019 (Rs.)
Direct Materials	1,050,000	925,000
Indirect Materials	177,500	237,500
Direct Wages	260,820	249,180
Subcontract charges	31,030	16,410
Architect's fees	57,500	90,000
Administrative Overheads	214,390	137,110
Hiring charges for equipment	145,610	79,350
Closing materials on site	129,000	

Certified work (cumulative)	2,250,000	4,500,000
Uncertified work	56,250	0

A Special Machinery Costing Rs. 400,000 was purchased for use on the contract. Its estimated value at the end of the contract would be Rs. 40,000. It was decided that the profit to be taken credit for the year ended 31-03-2018 should be that proportion of the estimated net profit to be realized on the completion of the contract which the cash received for the year bears to the contract price.

**Required:**

Prepare Contract Account for the year ended 2019 and Estimated Contract Account.

(10 Marks)

(II). A transport company maintains a fleet of buses as follows:

Bus Type (Carrying capacity)	No. of Buses	Purchase Price / Bus	Useful Life (Years)	Scrap Value (Rs.)
50 passenger	8	5,000,000	12	500,000
30 passenger	3	2,000,000	8	400,000

Each bus makes four round trips in a day by covering a distance of 60 km on each round trip. Separate driver is used for each bus. On an average 85% of the seating capacity is occupied in each trip. The company operated its fleet for 30 days in a month. The following further information is given in this regard:

Wages for a driver	Rs. 50,000 per month
Fuel	Rs. 15 per km for both type of bus
Repairs	Rs. 20,000 per month per bus
Tyres and Tubes etc.	Rs. 3 per km for both type of bus
Garage rent	Rs. 100,000 per annum
Interest on capital	Rs. 8% per annum
License	Rs. 7,500 per bus per annum
General supervision	Rs. 60,000 per month
Insurance	5% of purchase cost of the bus.

**Required:**

- Find appropriate cost unit for the transport company.
- Calculate cost per unit.
- Assume company wishes to earn 25% on takings. Find the fair charge for a passenger who travels 60 km in a day.

(10 Marks)

(Total: 20 Marks)