

Paper 8- Cost Accounting

Paper 8 – Cost Accounting

Full Marks: 100

Time allowed: 3 hours

Section-A

Section A contains Question Number 1. All parts of this question are compulsory.

1. Answer the following questions

(a) Choose the most appropriate alternative for the following (you may write only the Roman numeral and the alphabet chosen for your answer): [1x10=10]

(i) Job Costing is used in

- (a) Furniture making
- (b) Repair shops
- (c) Printing press
- (d) **All of the above**

(ii) Which of the following is considered as accounting record?

- (a) Bin Record
- (b) Bill of material
- (c) **Stores ledger**
- (d) None of these

(iii) Time and Motion Study is conducted by the

- (a) Time-keeping department
- (b) Personnel department
- (c) Payroll department
- (d) **Engineering department**

(iv) Royalty paid on sales ₹ 89,000 and software development charges related to product is ₹22,000. Calculate Direct Expenses.

- (a) 1,11,100
- (b) **1,11,000**
- (c) 1,11,110
- (d) 1,10,000

(v) Directors remuneration and expenses form a part of

- (a) Production overhead
- (b) **Administration overhead**
- (c) Selling overhead
- (d) Distribution overhead

(vi) CAS 21 stands for

- (a) Capacity Determination
- (b) Joint Cost
- (c) **Direct Expenses**

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 1

(d) **None of the above**

(vii) Absorption means

- (a) Charging or overheads to cost centers
- (b) **Charging or overheads to cost units**
- (c) Charging or overheads to cost centers or cost units
- (d) None of the above

(viii) Cost of service under operating costing is ascertained by preparing:

- (a) **Cost sheet**
- (b) Process account
- (c) Job cost sheet
- (d) Production account

(ix) Variable cost

- (a) Remains fixed in total
- (b) **Remains fixed per unit**
- (c) Varies per unit
- (d) Nor increase or decrease

(x) Materials become key factor, if

- (a) **Quota restrictions exist**
- (b) Insufficient advertisement prevails
- (c) There is low demand
- (d) There is no problem with supplies of materials

(b) Match the following :

[5×1=5]

	Column I		Column II
(i)	Shut Down Point (in quantity)	A.	8.33% of salary
(ii)	Captive power plant expense	B.	CAS 14
(iii)	Direct Expenses	C.	Avoidable Fixed Cost/Contribution per unit
(iv)	Pollution Control Cost	D.	Treated as part of factory expenses
(v)	Minimum bonus	E.	CAS 10

Answer:

(i)C	(ii)D	(iii) E	(iv) B	(v) A
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(c) Say True or False for the following question:

[5×1=5]

- (i) Flux method is means for measurement of labour turnover.
- (ii) Waste and Scrap of material have small realization value.
- (iii) Multiple Costing is suitable for the banking industry.
- (iv) A key factor or principal factor does not influence the preparation of all other budgets.
- (v) P/V ratio remains constant at all levels of activity.

Answer:

(i)True	(ii)False	(iii)False	(iv)False	(v)True
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(d) Fill in the blanks:

[5×1=5]

- (i) In motor transport costing two example of fixed cost are _____ and _____.
- (ii) Under integrated accounting system, the accounting entry for payment of wages is to debit _____ and to credit cash.
- (iii) The function of CASB is to assists the members in preparations of uniform _____ under various statue.
- (iv) In Absorption Costing _____ cost is added to inventory.
- (v) Direct Expenses incurred lump-sum shall be _____.

Answer:

(i) Insurance and Depreciation	(ii) Wages control accounts	(iii) Cost statement	(iv) Fixed cost	(v) Amortized
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Section – B

Answer any five questions from question numbers 2 to 8.

Each question carries 15 marks

- 2.(a) Bengal Limited, supplies you the following data relating to the week ending 16th March, 2019 for two workers Madan and Gagan:

	Madan	Gagan
Work issued (units)	1,500	3,168
Time Allowed	30 minutes per dozen	$2\frac{1}{2}$ hours per gross (1 gross = 144)
Output rejected (units)	400	568
Basic hourly wages rate	₹ 50	₹ 80
Hours Worked	54	48

Bonus is paid @ 2/3 of the basic rate for all time and for all output without deductions for rejected output. The working week is 42 hours, the first 6 hours of overtime being paid at time plus 1/4 and the next 6 hours at time plus 1/2. Using the above information, compute for each worker

- a) No. of bonus hours earned and amount of bonus earned
 - b) Amount of gross wages
 - c) Direct wages cost per dozen of finished output when over time is worked—
 - (i) Regularly throughout the year as company's policy due to labour shortage; and
 - (ii) Specifically at the customer's request to expedite delivery.
- [8]**

- 2(b) A company has two production departments and two service departments. The data relating to a period are as under:

	Production Departments		Service Departments	
	PD 1	PD 2	SD1	SD2
Direct Materials (₹)	80,000	40,000	20,000	30,000
Direct Wages (₹)	95,000	50,000	30,000	20,000
Overheads (₹)	80,000	50,000	40,000	30,000
Power Requirement at Normal capacity operations (Kwh)	25,000	30,000	15,000	10,000

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 1

Actual power consumption during the period	(Kwh)	12,000	20,000	8,000	12,000
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The power requirement of these departments is met by a power generation plant. The said plant incurred an expenditure, which is not included above, of ₹ 1,21,875 out of which a sum of ₹ 84,375 was variable and the rest fixed.

After apportionment of power generation plant costs to the four departments, the service department overheads are to be redistributed on the following bases:

	PD1	PD2	SD1	SD2
SD1	50%	40%	-	10%
SD2	60%	20%	20%	-

You are required to:

- (i) Apportion the power generation plant costs to the four departments.
- (ii) Re-apportion services department cost to production departments. [7]

Answer 2(a):

Computation of Bonus and Gross wages

Particulars	Madan	Gagan
Time Allowed	$= \frac{1500}{12} \times \frac{30}{60}$ = 62.5 hours	$= \frac{3168 \times 2.5}{144}$ = 55 hours
Less : Time taken	54 hours	48 hours
Time saved	8.5 hours	7 hours
Basic time	42 hours	42 hours
Overtime	12 hours	6 hours
Basic wages [A]	42 × ₹ 50 = ₹ 2,100	42 × ₹ 80 = ₹ 3,360
Overtime wages [B]	$6 \times \left(50 + \frac{50}{4} \right) +$ $6 \times \left(50 + \frac{50}{2} \right)$ = ₹ 825	$6 \times \left(80 + \frac{80}{4} \right)$ = ₹ 600
Bonus [C]	$\left(8.5 \times \frac{2}{3} \times 50 \right)$ = ₹ 283	$\left(7 \times \frac{2}{3} \times 80 \right)$ = ₹ 373
Gross wages [A+B+C]	₹ 3,208	₹ 4,333
(i) Direct wages cost per dozen of finished output when over time is worked regularly throughout the year as company's policy due to labour shortage:		
Direct wages	=2100+300+300+283 = ₹ 2,983	=3,360+480+373 = ₹ 4,213
Finished output	1500 – 400 =1100 units	3,168 – 568 = 2600 units
Direct wages cost per dozen of finished output	$\left(\frac{2,983}{1,100} \times 12 \right)$ = ₹ 32.54	$\left(\frac{4,213}{2,600} \times 12 \right)$ = ₹ 19.45

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(ii) Direct wages cost per dozen of finished output when over time is worked Specifically at the customer's request to expedite delivery		
Direct wages	₹ 3,208	₹ 4,333
Finished output	1500 – 400 =1100 units	3,168 – 568 = 2600 units
Direct wages cost per dozen of finished output	$\left(\frac{3,208}{1,100} \times 12\right)$ =₹ 35.00	$\left(\frac{4,333}{2,600} \times 12\right)$ =₹ 20.00

Answer 2(b):

(i) Apportionment of the power generation plant cost to the four departments:

Amount (₹)

Particulars	Basis of Apportionment	Total	PD1	PD2	SD1	SD2
Fixed Cost	Power requirement at Normal [5:6:3:2]	37,500	11,719	14,063	7,030	4,688
Variable Cost	Actual power consumption [3:5:2:3]	84,375	19,471	32,452	12,981	19,471
Total cost		1,21,875	31,190	46,515	20,011	24,159

(ii) Overhead distribution summary and re-apportionment:

Amount (₹)

Particulars	Total	PD1	PD2	SD1	SD2
Power generation plant cost	1,21,875	31,190	46,515	20,011	24,159
Direct Material	50,000			20,000	30,000
Direct Wages	50,000			30,000	20,000
Overheads	2,00,000	80,000	50,000	40,000	30,000
Total overheads as per primary distribution	4,21,875	1,11,190	96,515	1,10,011	1,04,159

Secondary Distribution:

Amount (₹)

Particulars		PD1	PD2	SD1	SD2
Total overheads as per primary distribution		1,11,190	96,515	1,10,011	1,04,159
SD1	[5:4:1]	55,006	44,004	(1,10,011)	11,001
SD2	[6:2:2]	69,096	23,032	23,032	(1,15,160)
SD1	[5:4:1]	11,516	9,213	(23,032)	2,303
SD2	[6:2:2]	1,382	461	460	(2,303)
SD1	[5:4:1]	230	184	(460)	46
SD2	[6:2:2]	28	9	9	(46)
SD1	[5:4:1]	5	4	(9)	-
Total		2,48,453	1,73,422	-	-

3.(a) List the scope and objective of cost accounting Standard on Determination of Average cost of Transportation **[8]**

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3.(b) Golden globe Limited provides the following particulars for the year 2018.

	(₹)		(₹)
Opening stock of raw materials	35,000	Carriage on goods sold	1,500
Purchase of raw materials	75,000	Rent and rates of Workshop	3,500
Raw materials returned to suppliers	1,500	Fuel, gas, water etc.	1,000
Closing stock of raw materials	17,000	Repairs to plant	600
Wages paid to :		Depreciation on Machinery	1,400
Productive workers	20,000	Office expenses	2,000
Non-productive workers	2,500	Direct chargeable expenses	1,000
Salaries paid to office staff	5,000	Advertising	1,500
Carriage on raw materials purchased	1,500	Abnormal loss of raw materials	3,000
Cash Discounts received	3,000	Loss on sale of investment	5,000

You are required to prepare a cost sheet

[7]

Answer 3(a):

The Cost Accounting Principles for tracing/identifying an element of cost, its allocation/apportionment to a product or service are well established. Transportation Cost is an important element of cost for procurement of materials for production and for distribution of product for sale. Therefore, Cost Accounting Records should present transportation cost separately from the other cost of inward materials or cost of sales of finished goods. The Finance Act 2003 also specifies the certification requirement of Transportation Cost for claiming deduction while arriving at the assessable value of excisable goods cleared for home consumption/ export. There is a need to standardize the recordkeeping of expenses relating to transportation and computation of Transportation Cost.

Objective

- To bring uniformity in the application of principles and methods used in the determination of averaged/equalized Transportation Cost.
- To prescribe the system to be followed for maintenance of records for collection of cost of transportation, its allocation/apportionment to cost centres, locations or products.
- To provide transparency in the determination of cost of transportation.

Scope

This standard should be applied for calculation of cost of transportation required under any statute or regulations or for any other purpose. For example, this standard can be used for:

- Determination of average transportation cost for claiming the deduction for arriving at the assessable value of excisable goods.
- Insurance claim valuation.
- Working out claim for freight subsidy under Fertilizer Industry Coordination Committee.
- Administered price mechanism of freight cost element.
- Determination of inward freight costs included or to be included in the cost of purchases attributable to the acquisition.
- Computation of freight included in the value of inventory for accounting on inventory or valuation of stock hypothecated with Banks / Financial Institution ...etc.

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 1

Answer 3 (b):

Statement of Cost

Particulars	Amount (₹)	Amount (₹)
Materials Consumed :		
Opening Stock	35,000	
Purchases	75,000	
Carriage on Purchases	1,500	
	1,11,500	
Less : Raw materials returned to suppliers	1,500	
	1,10,000	
Less : Abnormal Loss (see Note)	3,000	
	1,07,000	
Less : Closing Stock	17,000	90,000
Productive Wages		20,000
Direct Chargeable Expenses		1,000
Prime Cost		1,11,000
Works Overhead :		
Non – Production Wages	2,500	
Rent and Rates of Workshop	3,500	
Fuel, Gas, Water etc.	1,000	
Repairs to plant	600	
Depreciation on Machinery	1,400	9,000
Works Cost		1,20,000
Office overhead:		
Salaries to Office Staff	5,000	
Office Expenses	2,000	7,000
Cost of production		1,27,000
Selling and Distribution Overhead :		
Carriage on Goods Sold	1,500	
Advertising	1,500	3,000
Cost of Sales		1,30,000

Note :

- Abnormal loss of materials should be excluded from cost and debited to costing profit and loss a/c, hence it has been deducted from materials cost.
- Discount received is treated as finance income and excluded from cost accounts.
- Loss on sale of investment is purely financial charge and to be excluded from cost accounts.

4.(a) KKR Ltd. undertakes to supply 1,000 units of a component per month of January, February and March. Every month a batch order is opened against which materials and labour costs are booked at actual. Overheads are levied on the basis of labour hours. The selling price is contracted at ₹ 16 per unit.

From the following data, present the cost and profit per unit of each batch order and the overall position of the order for 3,000 units. Labour is paid at the rate of ₹. 2 per hour. The other details are:

Months	Batch Output	Material Cost	Labour Cost	Overheads (₹)	Total Labour hours
January	1,250	6,250	2,500	12,000	4,000
February	1,500	9,000	3,000	9,000	4,500
March	1,000	5,000	2,000	15,000	5,000

[8]

4.(b) Gold beauty soap company obtains four different products namely A,B,C, and D. The data on production and sale of these brands during 2018 is reproduced below.

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Brand Name	A	B	C	D
Production & Sales (units)	5,00,000	3,00,000	40,000	70,000
Sale value (₹ Lakhs)	31	15	1.2	2.8

All the above beauty soaps are manufactured jointly up to a particular process. At split off point they are formed into cake-sand packed. The annual cost data were as under.

Direct Material Cost	₹ 40 lakhs
Value added (includes profit at 25% on total cost)	₹ 10 lakhs

Out of the above brands, D is sold in unpacked condition without further processing while other 3 brands further processed at an additional cost:

A	₹ 1,30,000
B	₹ 1,20,000
C	₹ 50,000

You are required to:-

- (a) Work out the profit and cost of each brand of soap after allocating joint cost on the basis of Net Realisable value at split up point. (Per unit cost not required).
- (b) Find out revised cost and profit on each brand if the company decides to sell all soaps at split up point at following prices: A ₹ 6.00; B ₹ 4.50; C ₹ 1.50 and D ₹ 4.00 per unit.

Assume that for allocation of joint cost net realisable value method is used.

- (c) With the working results in (a) and (b) above advise Gold beauty soap company about the processing decision as to which soap to be sold at split of point and which to be processed further so as to maximize profit. Substantiate your decision with suitable costing technique. [7]

Answer 4(a):

COMPUTATION OF COST PER UNIT OF EACH BATCH ORDER AND PROFIT FOR NEW ORDER

Particulars	January	February	March	Total
Total Overhead [a]	12,000	9,000	15,000	
Total labour hrs [b]	4,000	4,500	5,000	
Overhead absorption rate per hour [a ÷ b]	3.00	2.00	3.00	
Labour hours for the job (in hours)	$\frac{2,500}{2}$ = 1,250	$\frac{3,000}{2}$ = 1,500	$\frac{2,000}{2}$ = 1,000	
For the batches:				
Material Costs [c]	6,250	9,000	5,000	
Labour costs [d]	2,500	3,000	2,000	
Overhead costs [e]	$1,250 \times 3.00$ = 3,750	$1,500 \times 2.00$ = 3,000	$1,000 \times 3.00$ = 3,000	
Total Costs [c+d+e]	12,500	15,000	10,000	
Output	1,250	1,500	1,000	
Cost per unit	10	10	10	
Order Size(units)	1,000	1,000	1,000	3,000
Sales Value @ ₹ 16	16,000	16,000	16,000	48,000
Less: Cost @ ₹ 10	10,000	10,000	10,000	30,000
Profit	6,000	6,000	6,000	18,000

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 1

Answer 4 (b):

Computation of Joint Cost:

Particulars	Amount (₹)
Direct material	40,00,000
(+) value added	10,00,000
Total sales	50,00,000
Less: Profit @ 25% on cost (i.e., 20% on sales)	10,00,000
Total Cost	40,00,000
Less: Separate Cost (130,000+120,000+50,000)	3,00,000
Joint Cost	37,00,000

Statement Showing Computation of profit after further processing:

		Amount (₹)				
	Particulars	A	B	C	D	Total
(i)	Sales after further processing	31,00,000	15,00,000	1,20,000	2,80,000	50,00,000
(ii)	Separate cost	1,30,000	1,20,000	50,000	-	3,00,000
(iii)	Sales before further processing NRV= (i-ii)	29,70,000	13,80,000	70,000	2,80,000	47,00,000
(iv)	Joint Costs(on basis of NRV)	23,38,085	10,86,383	55,106	2,20,426	37,00,000
(v)	Profit or Loss (iii – iv)	6,31,915	2,93,617	14,894	59,574	10,00,000

Statement Showing Computation of Profit Before Further Processing:

		Amount (₹)				
	Particulars	A	B	C	D	Total
(i)	Sales at split off	30,00,000	13,50,000	60,000	2,80,000	46,90,000
(ii)	Joint Cost (as apportioned above)	23,38,085	10,86,383	55,106	2,20,426	37,00,000
(iii)	Profit or Loss	6,61,915	2,63,617	4,894	59,574	9,90,000

Statement Showing Computation of Incremental Profit By Further Processing:

		Amount (₹)				
	Particulars	A	B	C	D	Total
(i)	Sales after further process	31,00,000	15,00,000	1,20,000	2,80,000	50,00,000
(ii)	Sales before further process	30,00,000	13,50,000	60,000	2,80,000	46,90,000
(iii)	Incremental sales (i-ii)	1,00,000	1,50,000	60,000	-	3,10,000
(iv)	Separate Costs	1,30,000	1,20,000	50,000	-	3,00,000
(v)	Incremental Profit (loss) (iii-iv)	(30,000)	30,000	10,000	-	10,000

Products B and C are to be further Process and whereas Products A and D need not to be further process.

- 5. (a)** A lodging home is being run in a small hill station with 60 single rooms. The home offers concessional rates during six off-season months in a year. During this period, half of the full-room rent is charged. The management's profit margin is targeted at 20% of the

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room rent. The following are the cost estimates and other details for the year ending – 31st March, 2018 (assume a month to be of 30 days):

(a) Occupancy during the season is 85%, while in the off season is 15% only:

(b) Expenses:

	(₹)
(i) Staff Salary(excluding room attendants)	3,20,000
(ii) Repairs to buildings	1,47,000
(iii) Laundry & Linen	73,240
(iv) Interior and Tapestry	1,10,000
(v) Sundry Expenses	95,000

(c) Annual depreciation is to be provided for buildings at 10% and on furniture and equipments at 5% on straight line basis;

(d) Room attendants are paid ₹ 5 per room day on the basis of occupancy of the rooms in a month;

(e) Monthly lighting charges are ₹ 150 per room, except in four months of winter when it is ₹ 60 per room and this cost is on the basis of full occupancy for a month, and

(f) Total investments in the home are ₹ 150 lakhs of which ₹ 80 lakhs relate to buildings and balance for furniture and equipments.

You are required to compute the room rent per day both during the season and off season. **[8]**

(b) A company undertook a contract for construction of a large building complex. The construction work commenced on 1st April, 2018 and the following data are available for the year ended 31st March, 2019.

	(₹ '000)
Contract Price	35,000
Work Certified	20,000
Progress Payments Received	15,000
Materials Issued to Site	8,500
Planning & Estimating Costs	1,000
Direct Wages Paid	4,020
Materials Returned From Site	270
Plant Hire Charges	2,000
Wage Related Costs	500
Site office costs	650
Head Office Expenses apportioned	350
Direct Expenses incurred	1,000
Work Not Certified	150

The contractors own a plant which originally cost ₹ 30 lacs have been continuously in use in this contract throughout the year. The residual value of the plant after 5 years of life is expected to be ₹ 5 lacs. Straight line method of depreciation is in use.

As on 31st March, 2019 the direct wages due and payable amounted to ₹ 2, 50,000 and the materials at site were estimated at ₹ 5,00,000. Required:

(i) Prepare the contract account for the year ended 31st March, 2019.

(ii) Show the calculation of profit to be taken to the profit and loss account of the year. **[7]**

Answer 5 (a):

COMPUTATION OF EFFECTIVE ROOM DAYS

Season	(60 rooms × 85/100) × (6 × 30) days	9,180
Off-season	(60 rooms × 15/100) × (6 × 30) days	1,620
Total no. of room days during a year		10,800

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COMPUTATION OF TOTAL COST

Particulars	Workings		Amount (₹)
• Salary			3,20,000
• Repairs to buildings			1,47,000
• Laundry and Linen			73,240
• Interior Decoration			1,10,000
• Depreciation			
- Building	[10% of 80,00,000]	8,00,000	
- Furniture & equipment	[5% of 70,00,000]	3,50,000	11,50,000
• Sundry Expenses			95,000
• Attendant's salary	[10,800 × 5]		54,000
• Lighting charges			
Season	[9,180 × 150/30]		45,900
Off-season:			
Winter [4 months]	[(1,620 × 4/6) × 60/30]		2,160
Balance [2 months]	[(1,620 × 2/6) × 150/30]		2,700
Total Cost			20,00,000

COMPUTATION OF TOTAL REVENUE:

	(₹)
Total Cost	20,00,000
(+) Profit (20% of revenue)(20,00,000 × 20/80)	5,00,000
Total Revenue	25,00,000

Assume rent per room per day during season is ₹ X & during off season is ₹ X/2

Hence, total annual revenue

$$= 9180 X + 1620 [X/2]$$

$$= 9990 X$$

$$\text{Now, } 9990 X = ₹ 25,00,000$$

$$X = ₹ 250 \text{ Hence, Rent per room per day}$$

$$\text{During season (X) = ₹ 250.25}$$

$$\text{Off-season (X/2) = [₹ 250.25/2] = ₹ 125.12}$$

Answer 5.(b):

Contract Account for the year ended 31st March, 2019

Dr.			Cr.		
Particulars		Amount (₹ '000)	Particulars		Amount (₹ '000)
To Materials issued		8,500	By Materials returned		270
To Direct Wages paid	4,020		By Materials at Site		500
Add: Accrued	250	4,270	By W.I.P A/c		
To Wages related costs		500	- Work certified	20,000	
To Direct expenses incurred		1,000	- Work uncertified	150	20,150
To planning & Estimating Costs		1,000			
To Plant Hire charges		2,000			
To Site Office Costs		650			
To Head Office expenses apportioned		350			
To Depreciation on plant (WN 1)		500			
To Notional profit c/d		2,150			
		20,920			20,920
To Profit & Loss A/c (WN 2)		1,075	By Notional Profit b/d		2,150

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To Reserve c/d		1,075			
		2,150			2,150

Working Notes:

1. Calculation of Depreciation on plant:

		Amount	
		(₹ '000)	
Original Cost of plant		3,000	
Less: Residual Value		500	
Chargeable cost of plant	[a]	2,500	
Life of the plant	[b]	5 years	
Annual Depreciation	[a÷b]	500	

2. Profit to be transferred to profit & loss Account:

$$\% \text{ of Completion} = \frac{\text{Work Certified}}{\text{Contract Price}} \times 100$$

Since the completion of contract is greater than 50% but not greater than 90%, 2/3 rd of the Notional Profit in the ratio of Cash received to work certified will be transferred to profit & Loss A/c.

$$= \frac{2}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work Certified}}$$

$$= \frac{2}{3} \times 2,150 \times \frac{15,000}{20,000} = ₹ 1,075$$

6.(a) The trading results of Raman Limited for the two years have been:

Year	Sales (₹)	Profit (₹)
2012	5,50,000	20,000
2013	6,00,000	30,000

Compute the following:

- (i) P/V ratio;
- (ii) Fixed costs;
- (iii) Break-even sales;
- (iv) Margin of Safety at a profit of ₹ 48,000;
- (v) Variable costs during the two year.

[8]

6(b) The following is the statement of Magma Co. for the month of April.

	Products		Amount (₹)
	A	B	Total
Sales	60,000	60,000	1,20,000
Variable costs	42,000	30,000	72,000
Contribution	18,000	30,000	48,000
Fixed Cost			36,000
Net Income			12,000

You are required to compute the P/V ratio for each product and then compute the P/V Ratio, break-even point and net profit for the following assumption.

- (i) Sales revenue divided 60% to Product A & 40% to Product B.
- (ii) Sales revenue divided 40% to Product A & 60% to Product B.

Also calculate the profit estimated on sales up to ₹ 1,80,000/- p.m. for each of the sales mix provided above.

[7]

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 1

Answer 6(a):

$$\begin{aligned} \text{(i) P/V Ratio} &= \left(\frac{\text{Change in profit}}{\text{Change in sales}} \right) \times 100 \\ &= \left(\frac{10,000}{50,000} \right) \times 100 \\ &= 20\% \end{aligned}$$

$$\begin{aligned} \text{(ii) Fixed Cost} &= (\text{Sales} \times \text{P/V Ratio}) - \text{profit} \\ &= (5,50,000 \times 20\%) - 20,000 \\ &= ₹ 90,000 \end{aligned}$$

$$\begin{aligned} \text{(iii) Break even sales} &= \left(\frac{\text{Fixed Cost}}{\text{PV Ratio}} \right) \\ &= \left(\frac{90,000}{20\%} \right) \\ &= ₹ 4,50,000 \end{aligned}$$

$$\begin{aligned} \text{(iv) Margin of Safety} &= \left(\frac{\text{Profit}}{\text{PV Ratio}} \right) \\ &= \left(\frac{48,000}{20\%} \right) \\ &= ₹ 2,40,000 \end{aligned}$$

(v) Variable costs during the two year:

$$2012: (5,50,000 \times 80\%) = ₹ 4,40,000$$

$$2013: (6,00,000 \times 80\%) = ₹ 4,80,000$$

Answer 6(b):

Computation of P/V ratio:

Particulars	A	B	TOTAL
P/V ratio: $\left(\frac{\text{Contribution}}{\text{sales}} \right) \times 100$	$\left(\frac{18,000}{60,000} \right) \times 100$ = 30%	$\left(\frac{30,000}{60,000} \right) \times 100$ = 50%	$\left(\frac{48,000}{1,20,000} \right) \times 100$ = 40%

Assumption I:

Statement showing computation of P/V ratio, break-even point and profit:

Amount (₹)				
S.No	Particulars	A	B	Total
I.	Sales	72,000	48,000	1,20,000
II.	Variable Cost (A – 70%); (B- 50%)	50,400	24,000	74,400
III.	Contribution (A-30%); (B-50%)	21,600	24,000	45,600
IV.	Fixed Cost			36,000
V.	Profit			9,600
	P/V ratio $(45,600 / 1,20,000) \times 100 = 38\%$	30%	50%	38%
	Break even sales = $36,000 / 38\% = ₹ 94,737$			

Answer to MTP_Intermediate_Syllabus 2016_Dec 2019_Set 1

Assumption II:

Statement showing computation of P/V ratio, break-even point and profit:

		Amount (₹)		
S.No	Particulars	A	B	Total
I.	Sales	48,000	72,000	1,20,000
II.	Variable Cost (A – 70%); (B- 50%)	33,600	36,000	69,600
III.	Contribution (A-30%); (B-50%)	14,400	36,000	50,400
IV.	Fixed Cost			36,000
V.	Profit			14,400
P/V ratio $(50,400 / 1,20,000) \times 100 = 42\%$		30%	50%	42%
Break even sales = $36,000/42\% = ₹ 85,714$				

7.(a) From the data given below, calculate the Material Price Variance, Material Usage Variance, Material Mix Variance, Material Cost Variance and Material Sub-Usage Variance:

Raw Material	Standard	Actual
A	40 Units @ ₹50 per unit	50 Units @ ₹50 per unit
B	60 Units @ ₹40 per unit	60 Units @ ₹45 per unit

[8]

7(b). Production costs of a factory for a year are as follows:

	₹
Direct wages	90,000
Direct Materials	1,29,250
Production Overheads, Fixed	30,000
Production Overheads, Variable	70,000

During the forthcoming year it is anticipated that:

- a) The average rate for direct labour remuneration will fall from ₹ 3 per hour to ₹ 2.50 per hour;
- b) Production will remain unchanged.
- c) Direct labour hours will increase by 25%

The purchase price per unit of direct materials and other materials and services which comprise overheads will remain unchanged. Draw up a budget and compute a factory overhead rate, the overheads being absorbed on a direct wage basis.

[7]

Answer 7(a):

Amount (₹)						
Material	Q	P	Value	Q	P	Value
A	40	50	2,000	50	50	2,500
B	60	40	2,400	60	45	2,700
	100		4,400	110		5,200

Computation of Required Values

Amount (₹)				
Material	(1) SQSP	(2) RSQSP	(3) AQSP	(4) AQAP
A	$40 \times 50 = 2,000$	$44 \times 50 = 2,200$	$50 \times 50 = 2,500$	$50 \times 50 = 2,500$
B	$60 \times 40 = 2,400$	$66 \times 40 = 2,640$	$60 \times 40 = 2,400$	$60 \times 45 = 2,700$
	4,400	4,840	4,900	5,200

RSQ For A = $40/100 \times 110 = 44$ units

RSQ for B = $60/100 \times 110 = 66$ units

Where (1) SQSP = Standard cost of standard Material = ₹ 4,400

(2) RSQSP = Revised Standard Cost of Material = ₹ 4,840

(3) AQSP = Standard Cost of Actual Material = ₹ 4,900

(4) AQAP = Actual Cost of Material = ₹ 5,200

Computation of required variances:

- a) Material sub-usage variance = (1) - (2) = ₹ 440(A) [₹ 4,400 - ₹ 4,840]
- b) Material mix variance = (2) - (3) = ₹ 60(A) [₹ 4,840 - ₹ 4,900]
- c) Material usage variance = (1) - (3) = ₹ 500(A) [₹ 4,400 - ₹ 4,900]
- d) Material price variance = (3) - (4) = ₹ 300(A) [₹ 4,900 - ₹ 5,200]
- e) Material cost variance = (1) - (4) = ₹ 800(A) [₹ 4,400 - ₹ 5,200]

Answers 7(b):

$$\text{Existing Direct Labour Hours} = \frac{90,000}{3} = 30,000 \text{ hours}$$

$$\begin{aligned} \text{Expected Direct Labour Hours} &= 30,000 \times 125\% \\ &= 37,500 \text{ hours} \end{aligned}$$

$$\begin{aligned} \text{Direct Wages} &= 37,500 \text{ hrs} \times ₹ 2.50 \text{ per hr} \\ &= ₹ 93,750 \end{aligned}$$

Computation of factory cost and overhead absorption rate on Direct wages:

Particulars	Amount (₹)
Direct Material	1,29,250
Direct Wages	93,750
Prime Cost	2,23,000
Factory Overhead:	
Fixed Production overheads	30,000
Variable Production Overheads	70,000
Factory Cost	3,23,000

$$\begin{aligned} \text{Factory overhead absorption rate on direct wages} &= \frac{\text{Factory overhead}}{\text{Direct wages}} \times 100 \\ &= \frac{1,00,000}{93,750} \times 100 = 106.67\% \end{aligned}$$

8. Short note: (any three)

[5×3=15]

- (a) Advantages of Cost Control
- (b) Cost Classification by Functions and explain any two
- (c) Treatment of Idle time
- (d) Uses and applications of Break even Analysis (any five)

Answer:

(a) Advantages of Cost Control:

The advantages of cost control are mainly as follows

- (i) Achieving the expected return on capital employed by maximizing or optimizing profit
- (ii) Increase in productivity of the available resources
- (iii) Reasonable price of the customers
- (iv) Continued employment and job opportunity for the workers
- (v) Economic use of limited resources of production
- (vi) Increased credit worthiness
- (vii) Prosperity and economic stability of the industry

(b) Cost Classification by Functions and explain any two:

A business enterprise performs a number of functions like manufacturing, selling, research...etc. Costs may be required to be determined for each of these functions and on this basis functional costs may be classified into the following types:-

- (i) Production or Manufacturing Costs
- (ii) Administration Costs
- (iii) Selling & Distribution cost
- (iv) Research & Development costs

(i) Production or Manufacturing Costs:

Production cost is the cost of all items involved in the production of a product or service. These refer to the costs of operating the manufacturing division of an undertaking and include all costs incurred by the factory from the receipt of raw materials and supply of labour and services until production is completed and the finished product is packed with the primary packing. The followings are considered as Production or Manufacturing Costs:-

- (1) Direct Material
- (2) Direct Labour
- (3) Direct Expenses and
- (4) Factory overhead, i.e., aggregate of factory indirect material, indirect labour and indirect expenses.

Manufacturing cost can also be referred to as the aggregate of prime cost and factory overhead.

(ii) Administration Costs:

Administration costs are expenses incurred for general management of an organization. These are in the nature of indirect costs and are also termed as administrative overheads. For understanding administration cost, it is necessary to know the scope of administrative function. Administrative function in any organization primarily concerned with following activities:-

- (1) Formulation of policy
- (2) Directing the organization and
- (3) Controlling the operations of an organization. But administrative function will not include control activities concerned with production, selling and distribution and research and development.

Therefore, administration cost is the cost of administrative function, i.e., the cost of formulating policy, directing, organizing and controlling the operations of an undertaking (Administrative cost will include the cost of only those control operations which are not related to production, selling and distribution and research and development). In most of the cases, administration cost includes indirect expenses of following types:

- (1) Salaries of office staff, accountants, directors
- (2) Rent, rates and depreciation of office building
- (3) Postage, stationery and telephone

- (4) Office supplies and expenses
- (5) General administration expenses.

(c) Treatment of Idle time:

As per CAS-7 (Limited Revision 2017), Idle Time Cost shall be assigned direct to the cost object or treated as overheads depending on the economic feasibility and specific circumstances causing such idle time.

Treatment of different categories of Idle Time is as below:-

- a) Unavoidable idle time above would be for insignificant periods. In Cost Accounts, this is allowed to remain merged in the Production Order or Standing Order Number on which the worker was otherwise employed.
- b) Normal Idle Time is booked to factory or works overhead. For the purpose of effective control, each type of idle time, i.e., idle time classified according to the causes is allocated to a separate Standing Order Number.
- c) Abnormal Idle Time would usually be heavy in amount involves longer periods and would mostly be beyond the control of the management. Payment for such idle time is not included in cost and is adjusted through the Costing Profit and Loss Account or included in Profit and Loss Account, when the accounts are integrated.
- d) Tendency to conceal Idle Time should be discouraged. It is a non-effective time and the resultant loss of profit due to reduced production activity but also increases the cost per unit of production as the fixed costs continue to be incurred, irrespective of the reduced quantum of production due to loss of labour time. Idle Time should, therefore, be highlighted prominently so that action can be taken to remove the causes thereof. Although for obvious reasons, it is not possible to record minor details, vigilance is necessary for finding out long-term idleness among the workers

(d) Uses and applications of Break even Analysis:

The important uses to which cost-volume profit analysis or break-even analysis or profit charts may be put to use are:

- a) Forecasting costs and profits as a result of change in Volume determination of costs, revenue and variable cost per unit at various levels of output.
- b) Fixation of sales Volume level to earn or cover given revenue, return on capital employed, or rate of dividend.
- c) Determination of effect of change in Volume due to plant expansion or acceptance of order, with or without increase in costs or in other words, determination of the quantum of profit to be obtained with increased or decreased volume of sales.
- d) Determination of comparative profitability of each product line, project or profit

plan.

e) Suggestion for shift in sales mix.