INTERMEDIATE EXAMINATION

GROUP I

(SYLLABUS 2016)

SUGGESTED ANSWERS TO QUESTIONS

DECEMBER 2018

Paper-8: COST ACCOUNTING

Time Allowed : 3 Hours **Full Marks : 100**

The figures in the margin on the right side indicate full marks.

All sections are compulsory. Each section contains instructions regarding the number of questions to be answered within the section.

All working notes must form part of the answers.

Wherever necessary, candidates may make appropriate assumptions and clearly state them.

No present value factor table or other statistical table will be provided in addition to this question paper.

Section A

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

1. Answer the following questions:

(a) Choose the correct answer from the given alternatives (you may write only the Roman numeral and the alphabet chosen for your answer): 1×10=10

(i) Joint Cost is suitable for

- **(a) Oil Industry**
- **(b) Fertilizer Industry**
- **(c) Ornament Industry**
- **(d) Infrastructure Industry**

(ii) Cost of idle time arising due to non-availability of raw materials is

- **(a) recovered by inflating the raw materials cost.**
- **(b) recovered by inflating the wage rate.**
- **(c) charged to factory overheads.**
- **(d) charged to costing profit and loss account.**

(iii) Charging to a cost center those overheads that result solely for the existence of that cost center is known as

- **(a) Allotment**

(b) Allocation

(c) Absorption

(d) Apportionment

(iv) Standard deals with the cost of service cost center is

(a) CAS-9

(b) CAS-13

(c) CAS-16

(d) CAS-22

(v) In Reconciliation Statement income shown only in financial accounts is

(a) added to financial profit.

(b) deducted from financial profit.

(c) ignored.

(d) deducted from costing profit.

(vi) The most suitable cost system where the products differ in type of material and work performed is

(a) Process Costing

(b) Batch Costing

(c) Job Costing

(d) Operating Costing

(vii) In a process 10000 units are introduced during a period. 10% of input is normal loss. Closing work-in-process 70% complete is 1500 units. 7500 completed units are transferred to next process. Equivalent production for the period is

(a) 9550 units

(b) 9000 units

(c) 8550 units

(d) 8500 units

(viii) The sales and profit of a firm for the year 2016 are Rs.1,50,000 and Rs.20,000 and for the year 2017 are Rs.1,70,000 and Rs.25,000 respectively. The P/V Ratio of the firm is

(a) 15%

(b) 20%

(c) 25%

(d) 30%

(ix) Standard quantity of material for one unit output is 10 kg @ Rs.8 per kg. Actual output during a given period is 600 units. The standard quantity of material for actual output is

(a) 1200 kg

(b) 6000 kg

(c) 4800 kg

(d) 48000 kg

(x) Which of the following is a long-term Budget?

(a) Master Budget

(b) Production Budget

(c) Flexible Budget

(d) Capital Budget

(b) Match the statement in Column I with the most appropriate statement in Column II

(You may opt to write only the Roman numeral and the matched alphabet instead of copying contents into the Answer Books): 1×5=5

	Column I		Column II
(i)	Cash discount allowed	(A)	Joint Cost
(ii)	Escalation Clause	(B)	Imputed Cost
(iii)	CAS-19	(C)	Direct Expenses
(iv)	Notional Cost	(D)	Not shown is cost sheet but debited to profit and loss account
(v)	Zero base budgeting	(E)	Sunk Cost
		(F)	Contract Costing
		(G)	Decision Package
		(H)	Variable Cost

(c) State whether the following statements are 'True' or 'False' (You may write only the Roman numeral and whether 'True'or 'False' without copying the statements into the Answer Book): 1×5=5

(i) Multiple costing is suitable for banking industry.

(ii) Slow moving materials have a high turnover ratio.

(iii) Cost ledger control account makes the cost ledger self-balancing.

(iv) There is inverse relationship between batch size and carrying costs.

(v) Marginal costing follows the identifiability wise classification of costs.

(d) Fill in the blanks (you may write only the Roman numeral and the content filling the blanks): 1×5=5

(i) _____ is discount allowed to the bulk purchaser.

(ii) CAS _____ stands for cost of utilities.

(iii) Under integrated accounting system, the accounting entry for payment of wages is to debit _____ and to credit cash account.

(iv) If the actual loss in a process is less than the normal loss, the difference is known as _____

(v) The principal budget factor for consumer goods manufacturer is normally _____.

Answer: 1 (a)

(i) (a)

(ii) (d)

(iii) (b)

(iv) (b)

(v) (b)

(vi) (c)

(vii) (c)

(viii) (c)

(ix) (b)

(x) (d)

Answer: 1 (b)

	Column I		Column II
(i)	Cash discount allowed	(D)	Not shown in cost sheet but debited to profit and loss account
(ii)	Escalation Clause	(F)	Contract Costing
(iii)	CAS-19	(A)	Joint Cost
(iv)	Notional Cost	(B)	Imputed Cost
(v)	Zero base budgeting	(G)	Decision Package

Answer: 1 (c)

(i) False

(ii) False

(iii) True

(iv) False

(v) False

Answer: 1 (d)

(i) Quantity Discount/ Trade Discount/ Cash Discount

(ii) CAS – 8

(iii) Wages Control Account

(iv) Abnormal gain/Abnormal Profit

(v) Sales Demand/Market Demand / Lack of Demand

Section - B

Answer any five questions from question numbers 2 to 8.

Each question carries 15 marks. 15×5=75

2. (a) ZEDYAAH TUBES LTD. manufactures a special product, which requires ZEDY. The following particulars were collected for the year 2017-18:

(i)	**Monthly demand of Zedy**	**:**	**7500 units**
(ii)	**Cost of placing an order**	**:**	**Rs.500**
(iii)	**Re-order period**	**:**	**5 to 8 weeks**
(iv)	**Cost per unit**	**:**	**Rs.60**
(v)	**Carrying cost % p.a.**	**:**	**10%**
(vi)	**Normal usage**	**:**	**500 units per week**

(vii)	**Minimum usage**	**:**	**250 units per week**
(viii)	**Maximum usage**	**:**	**750 units per week**

Required:

Calculate the following:

(i) Re-order quantity
(ii) Re-order level
(iii) Minimum stock level
(iv) Maximum stock level
(v) Average stock level **7**

(b) SONAX LTD. has three Production Departments and two Service Departments. The overhead distribution sheet showed the following totals:

	`
Production Departments:	
A	**25,000**
B	**31,000**
C	**28,000**
Service Departments:	
S	**8,000**
T	**13,900**

Required:
Using the following bases of apportionment, distribute the cost of service departments under Simultaneous Equation Method:

	A	B	C	S	T
Department S	**30%**	**20%**	**40%**	**-**	**10%**
Department T	**40%**	**15%,**	**25%**	**20%**	**-**

8

Answer: 2 (a)

(i)	Re-order Quantity	=	$\sqrt{\frac{2AO}{C}} = \sqrt{\frac{2 \times 7,500 \times 12 \times 500}{60 \times 10\%}}$ = 3,873 units.
(ii)	Re-order Level	= =	Maximum Re-order Period x Maximum Usage 8 weeks × 750 unite per week = 6,000 units
(iii)	Minimum Stock Level	= =	Re-order Level - {Normal Usage × Normal Re-order Period} 6,000 - (500 × 6.5) = 2,750 units
(iv)	Maximum Stock Level	= =	Re-order Level + Re-order Quantity - (Minimum Usage × Minimum Re-order Period) 6,000 + 3,873 - (250 × 5) = 8,623 units.
(v)	Average Stock Level	= =	$\frac{1}{2}$ (Minimum Stock Level + Maximum Stock Level) $\frac{1}{2}$ (2,750 + 8,623) = 5,687 units. **OR** Minimum Level + $\frac{1}{2}$ Re-order Quantity = 2,750 +1,937 = 4,687 units

Answer: 2 (b)

Let x be the expense of Department S

and y be the expense of Department T

Then x = **Rs.** 8,000 + $\frac{1}{5}$ th of y (20% of y)

Y = **Rs.**3,900 + $\frac{1}{10}$ th of x

Putting the value of x, we get:

y = **Rs.**13,900 + $\frac{1}{10}$ of (8,000 + $\frac{1}{5}$ of y)

Or, y = **Rs.**13,900 + **Rs.**800 + $\frac{1}{50}$ y

Or, y = Rs.14,700 + $\frac{1}{50}$ y , or 50 y = 7,35,000 + y

Or, 50y - y = **Rs.** 7,35,000 or, y =Rs. $\frac{7,35,000}{49}$ = **Rs.**15,000

Putting the value of y we get

x = Rs 8,000 + $\frac{1}{5}$ th of y, or, x = Rs. 8,000 + $\frac{1}{5}$ of **Rs.**15,000

or, x = Rs.8,000 + **Rs.**3,000, or x = Rs.11,000

Total expenses of Dept. S = Rs.11,000

Total expenses of Dept. T = **Rs.**15,000

Overhead Distribution Summary

Particulars	**A**	**B**	**C**	**S**	**T**
	Rs.	Rs.	Rs.	Rs.	Rs.
Total as per					
Primary Distribution	25,000	31,000	28,000	8,000	13,900
Distribution of Expenses of Dept. S in the ratio 3:2:4:1	3,300	2,200	4,400	-11,000	1,100
Distribution of Expenses of Dept. T in the ratio 8:3:5:4	6,000	2,250	3,750	3,000	-15,000
	34,300	35,450	36,150	-	-

3. (a) What are the various types of materials included in the Material Cost as dealt with by CAS-6 relating to Cost Accounting Standard on Material Cost?
State the objective and scope of the Standard. **6**

(b) The following information is available from the financial books of PQR Ltd. having a normal production capacity of 60000 units for the year ended 31st March, 2018:

(i) Sales Rs.10,00,000 (50000 units)
(ii) There was no opening and closing stock of finished units.
(iii) Direct material and direct wages costs were Rs.5,00,000 and Rs.2,50,000 respectively.
(iv) Actual factory expenses were Rs.1,50,000 of which 60% are fixed.
(v) Actual administrative expenses were `Rs.45,000 which are completely fixed.
(vi) Actual selling and distribution expenses were Rs.30,000 of which 40% are fixed.
(vii) Interest and dividends received Rs.15,000

You are required to

(A) find out profit as per financial books for the year ended 31st March, 2018.
(B) prepare the cost sheet and ascertain the profit as per cost accounts for the year ended 31st March, 2018 assuming that the indirect expenses are absorbed on the basis of normal production capacity.
(C) prepare a statement reconciling profits shown by financial and cost books. 9

Answer: 3 (a)

CAS-6: Cost Accounting Standard on Material Cost [Limited Revision 2017]

This standard deals with principles and methods of determining the Material Cost. Material for the purpose of this standard includes Raw Materials, Process Materials, Additives, manufactured / bought out Components, Sub-assemblies, Accessories, Semi-finished Goods, Consumable Stores, Spares and other indirect Materials.

This standard deals with the principles and methods of classification, measurement and assignment of Material Cost, for determination of the Cost of Product or Service, and the presentation and disclosure in Cost Statements.

Objective

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the Material Cost with reasonable accuracy.

Scope

This standard should be applied to Cost Statements which require classification, measurement, assignment, presentation and disclosure of Material Costs including those requiring attestation.

Answer: 3 (b)

(a) Profit and Loss Account for the year ended 31st March, 2018

Particulars	Rs.	Particulars	Rs.
To Direct Materials	5,00,000	By Sales (50,000 units)	10,00,000
To Direct Wages	2,50,000	By Interest and Dividends	15,000
To Factory Expenses	1,50,000		
To Administration Expenses	45,000		
To Selling & Distribution Expenses	30,000		
To Profit	40,000		
	10,15,000		10,15,000

(b) Cost Sheet for the year ended 31st March, 2018

	Rs.	Rs.
Direct Material		5,00,000
Direct Wages		2,50,000
Prime Cost		7,50,000
Factory Expenses:		
Variable	60,000	
Fixed (Rs.90,000 × 5/6)	75,000	1,35,000
Works Cost		8,85,000
Administration Expenses (Rs.45,000 × 5/6)		37,500
Cost of Production		9,22,500
Selling & Distribution Expenses:		
Variable	18,000	
Fixed (Rs.12,000 × 5/6)	10,000	28,000
Cost of Sales		9,50,500
Profit		49,500
Sales		10,00,000

(c) Reconciliation Statement

	Rs.	Rs.
Profit as per Cost Accounts		49,500
Add : Interest and Dividends received only credited in Financial Accounts		15,000
		64,500
Less :		
Factory expenses under-charged in Cost Accounts (Rs.1,50,000 – Rs.1,35,000)	15,000	
Administrative expenses under-charged in Cost Accounts (Rs.45,000 – Rs.37,500)	7,500	
Selling and Distribution Expenses under-charged in Cost Accounts (Rs. 30,000 – Rs. 28,000)	2,000	24,500
Profit as per Financial Accounts		40,000

4. (a) Z Ltd., manufactured and sold 200 typewriters in the year 2017. Its summarised Trading and Profit & Loss Account for the year 2017 is as follows:

Total Output (in units) 200

Particulars	Rs.	Particulars	Rs.
To Cost of Material consumed	**1,20,000**	**By Sales**	**6,00,000**
To Direct Wages	**1,80,000**		
To Manufacturing Charges	**75,000**		
To Gross Profit c/d	**2,25,000**		
	6,00,000		**6,00,000**
To Management Expenses	**90,000**	**By Gross Profit b/d**	**2,25,000**
To General Expenses	**30,000**		

To Rent, Rates & Taxes	**15,000**		
To Selling Expenses	**45,000**		
To Net Profit	**45,000**		
	2,25,000		**2,25,000**

For the year 2018, it is estimated that

(i) The output and sales will be 300 typewriters.

(ii) Price of material will rise by 25% compared to previous year level.

(iii) Wages per unit will rise by 10%.

(iv) Manufacturing charges will increase in proportion to the combined cost of material and wages

(v) Selling expenses per unit will remain unchanged.

Other expenses will remain unaffected by the rise in output.

Required:

Prepare a Cost Sheet showing the cost at which typewriters will be manufactured in 2018 and give price at which it should by marketed so as to show profit of 10% on selling price. 8

(b) The following details are extracted from the costing records of EVINIE LTD., an oil mill for the year ended 31st March, 2018. Purchased 2000 tons of copra for Rs.1,00,000 and other expenses were as under:

	Crushing(Rs.)	Refining (Rs.)	Finishing (Rs.)
Cost of Labour	**10,000**	**6,000**	**4,000**
Sundry Material	**4,000**	**3,000**	**2,000**
Electric Power	**3,000**	**2,000**	**1,600**
Steam	**2,000**	**2,000**	**1,500**
Repair of Machine	**2,000**	**1,000**	**500**
Cost of Casks	**—**	**—**	**7,500**

Factory Expenses were Rs.10,000 to be apportioned on the basis of wages. 1700 tons of crude oil was produced; 1540 tons of oil was refined and finally 1500 tons of oil was finished for delivery. Realised Rs.2,000 from sale of sacks; Rs.5,000 by sale of 250 tons of copra residue and Rs.5,100 by sale of 120 tons of by-products in refining process.

Prepare Process Accounts for the year ending on 31st March, 2018. 7

Answer: 4 (a)

Cost Sheet of Z Ltd. For the year 2017

Particulars	Total Cost Rs.	Cost per unit Rs.
Direct Material	1,20,000	600
Direct Labour	1,80,000	900
Prime Cost	3,00,000	1,500
Add : Factory Overhead (Manufacturing exp.)	75,000	375
Factory Cost	3,75,000	1,875
Add : **Office Overhead** :		
Management Expenses 90,000 General Expenses 30,000 Rent, Rates & Taxes 15,000	1,35,000	675

Cost of Production	5,10,000	2,550
Add: Selling & Distribution Expenses	45,000	225
Total Cost	5,55,000	2,775
Profit	45,000	225
Selling Price	6,00,000	3,000

Estimate for the year 2018 :	**Rs.**
1. Material Cost per Unit: Add : Expected increase in Price of Material in 2018 (It is 25% compared to year 2017)	600 150
Expected price of material per unit	750
2. Wages per unit	900
Add : Expected increase @ 10%	90
Expected Wages per Unit	990
3. Manufacturing charges are **Rs.**375 per Unit and total of Material and Labour cost is Rs.1,500 per Unit so percentage of manufacturing expenses to combined Cost of Material and Wages is as follows : $= \frac{\text{Manufacturing Expenses}}{\text{Material Cost} + \text{Labour Cost}} \times 100$ $= \frac{375}{1,500} \times 100 = 25\%$ Manufacturing expenses are 25% of combined Cost of Material and Wages: 25% of **Rs.**1,740	435

To ascertain the Selling Price to be quoted in the year 2018 the estimated cost sheet for the year 2018 will be prepared as follows:

Estimated Cost Sheet
for the year 2018

Production = 300 Units

Particulars	**Total Cost Rs.**	**Cost per unit Rs.**
Direct Material	2,25,000	750.00
Direct Labour	2,97,000	990.00
Prime Cost	5,22,000	1,740.00
Factory Overhead (25% of Cost of Material & Wages)	1,30,500	435.00
Factory Cost	6,52,000	2,175.00
Office Overhead	1,35,000	450.00
Cost of Production	7,87,500	2,625.00
Selling & Distribution Overhead (300 × Rs.225)	67,500	225.00
Total Cost	8,55,000	2,850.00
Profit (10% of Selling Price or 1/9 of Total Cost)	95,000	316.67
Selling Price	9,50,000	3,166.67

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An alternative answer with volume multiplier can simplify the solution as follows

PARTICULARS	Amount in Rs.	Cost Per Unit Rs.
Direct materials (1,20,000*1.5*1.25)	2,25,000	750
Direct Labour (1,80,000*1.5*1.1)	2,97,000	990
Prime Cost	5,22,000	1,740
Manufacturing Charges (75,000/3,00,000)*5,22,000	1,30,500	435
Factory Cost	6,52,500	2,175
Office Overheads:		
Management Expenses 90,000		
General Expenses 30,000		
Rent , Rates & Taxes 15,000	1,35,000	450
Cost of Production	7,87,500	2,625
Selling Expenses (45,000*1.5)	67,500	225
Total Cost	8,55,000	2,850
Profit (1/9 of 8,55,000)	95,000	317
Sales	9,50,000	3,167
Selling price per typewriter (9,50,000/300)	3,166.67 r/o 3,167	

Note: Volume multiple is 300/200 =1.5 times

Answer: 4 (b)

Crushing Process Account

Particulars	Tons	Amount Rs.	Particulars	Tons	Amount Rs.
To Copra	2,000	1,00,000	By Copra Sacks	-	2,000
To Labour		10,000	By Copra Residue	250	5,000
To Sundry Materials		4,000	By Loss in Crushing (Balancing Figure)	50	-
To Electric Power		3,000	By Transfer to Refining @ Rs.70 per ton	1,700	1,19,000
To Steam		2,000			
To Repairs of Machines		2,000			
To Factory Expenses*		5,000			
	2,000	1,26,000		2,000	1,26,000

Refining Process Account

Particulars	Tons	Amount	Particulars	Tons	Amount Rs.
To Crushing Process a/c	1,700	1,19,000	By Sale of By Products	120	5,100
To Labour		6,000	By Loss in Refining Process Balancing Figure)	40	-

To Sundry Materials		3,000			-
To Electric Power		2,000	By Transfer to Finishing Process @ **Rs.** 85 per ton	1,540	1,30,900
To Steam		2,000			
To Repairs of Machines		1,000			
To Factory Expenses*		3,000			
	1,700	1,36,000		1,700	1,36,000

Finishing Process Account

Particulars	**Tons**	**Amount Rs.**	**Particulars**	**Tons**	**Amount Rs.**
To Refining Process a/c	1,540	1,30,900	By Loss in Finishing Balancing Figure)	40	-
To Labour		4,000	By Cost of Production Transferred to Finished Oil a/c @ **Rs.**95 per ton	1,500	1,42,500
To Sundry Materials		2,000			
To Electric Power		1,600			
To Steam		1,500			
To Repairs of Machines		500			
To Factory Expenses		2,000			
	1,540	1,42,500		1,540	1,42,500
To Cost of Production of Finished Oil	1,500	1,42,500	By Total Cost @ Rs. 100 per Ton	1,500	1,50,000
To Cost of Casks		7,500			
	1,500	1,50,000		1,500	1,50,000

Working Note:

*Factory overhead of **Rs.** 10,000 is apportioned in the ratio of labour cost, i.e. 5:3:2.

5. (a) GOLDEN TRANSPORT CO. has been given a route 20km. long for running buses. The company has a fleet of 10 buses each costing Rs.60,000 and having a life of 5 years without any scrap value.

The following are estimated expenditure and other details:

(i)	**Insurance charges**	**3% p. a.**
(ii)	**Annual tax for each bus**	**Rs.3,000**
(iii)	**Total garage charges**	**Rs.4,000 p.m.**
(iv)	**Driver's salary for each bus**	**Rs.10,000 p. m.**
(v)	**Conductor's salary for each bus**	**Rs.7,000 p. m.**
(vi)	**Annual repairs to each bus**	**Rs.6,000**
(vii)	**Commission to be shared by the driver and conductor equally: 10% of the takings**	
(viii)	**Cost of stationary**	**Rs.1,500 p. m.**
(ix)	**Manager's salary**	**Rs.12,000p.m**
(x)	**Accountant's salary**	**Rs.9,000 p.m.**
(xi)	**Petrol and oil**	**Rs.400 per 100 km**

Each bus will make 3 round trips carrying on an average 40 passengers on each trip. The bus will run on an average for 25 days in a month.
Assuming 15% profit on takings, Calculate the bus fare to be charged from each passenger. 8

(b) OMEGA LTD. undertook a contract for Rs.5,00,000 on 1st January, 2017. The company furnishes the following details for the year ended 31st December, 2017:

	Rs.
Materials consumed	**1,65,000**
Direct Expenses	**5,000**
Wages	**30,000**
Materials returned to stores	**5,000**
Materials stolen from site	**10,000**
Insurance claim admitted	**6,000**
Works expenses @ 20% on wages	
Office expenses @ 10% on works cost	
Materials in hand on 31.12.2017	**15,000**
Cash received to the extent of 90% of works certified	**2,70,000**
Cost of work uncertified	**11,000**

Plant sent to site costing Rs.60,000 with a scrap value of Rs.10,000 and its useful life is 5 years. The plant was used on the contract for 146 days.

Required:

Prepare Contract Account showing therein the cost of materials issued to site and the amount of profit or loss to be transferred to the Profit & Loss Account. 7

Answer: 5 (a)

Particulars	Amount Rs.
1. Insurance (Rs.60,000 × 3% × 10/12)	1,500
2. Tax (Rs.3,000 × 10/12)	2,500
3. Total Garage charges	4,000
4. Drivers' salary (Rs.10,000 × 10)	1,00,000
5. Conductors' salary (Rs.7,000 × 10)	70,000
6. Repairs (Rs.6,000 × 10/12)	5,000
7. Cost of stationary	1,500
8. Manager's salary	12,000
9. Accountant's salary	9,000
10. Depreciation (Rs.60,000 × 10/5 × 1/12)	10,000
11. Petrol * (30,000/100) × 400	1,20,000
12. Commission of conductor & driver 4,47,333 × (10/100)	44,733
13. Total Cost	3,80,233
14. (+) Profit @ 15% on takings (4,47,333 × 15/100)	67.100
15. Takings **	4,47,333

* 10 × 20 × 3 × 2 × 25 = 30,000

**Let 'X' be the takings

X = Rs.3,35,500 + (10/100 X) + (15/100 X)

100 X = Rs. 3,35,50,000 + 25X

⇨ X = Rs. 4,47,333

Fare per passenger Km = Rs.4,47,333 / (30,000 × 40) = **Re.** 0.3727 say Re.0.37

Answer: 5 (b)

Calculation of Cost of Materials issued to site

		Rs.
	Materials consumed	1,65,000
Add:	Materials stolen	10,000
	Materials returned to stores	5,000
	Materials in hand (31.12.2017)	15,000
		1,95,000

Contract Account
for the year ended 31st Dec. 2017

Dr.			Cr.
	Rs.		Rs.
To Materials issued to site	1,95,000	By Materials returned to stores	5,000
To Direct Expenses	5,000	By Insurance claim A/c (Loss of Stock)	6,000
To Wages	30,000	By Profit and Loss A/c (Stolen Rs. 10,000 – Rs.6,000)	4,000
To Works Expenses 20% of wages	6,000	By Materials in hand	15,000
To Office Expenses 10% of Works Cost (Note 1)	21,000	By Cost of Contract Balancing Figure)	2,31,000
To Depreciation on Plant (Note 2)	4,000		
	2,61, 000		2,61,000
To Cost of Contract b/d	2,31,000	By Work in Progress :	
To Notional Profit	80,000	Work certified	3,00,000
		Work uncertified	11,000
	3,11,000		3,11,000
To Profit & Loss A/c (Note 3)	48,000	By Notional Profit	80,000
To Profit Reserve	32,000		
	80,000		80,000

Working Notes:

1. **Calculation of works cost**

	Rs.
Materials consumed	1,65,000
Add: Direct Wages	30,000
Direct Expenses	5,000
Prime Cost	2,00,000
Add: Works expenses	6,000
Deprecation	4,000
	2,10,000

2. **Calculation of Depreciation on Plant**

$$\text{Rs.} = \frac{60,000 - 10,000}{5} \times \frac{146}{365} = \text{Rs.}4,000$$

3. Profit to be credited to profit & Loss A/c

$$\frac{2}{3} \times \text{National Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= \frac{2}{3} \times 80,000 \times \frac{2,70,000}{3,00,000} = \text{Rs.}48,000$$

6. (a) A company budgets for a production of 5 lakh units at a variable cost of Rs.20 each. The fixed costs are Rs.20 lakh. The selling price is fixed to yield a profit of 25% on cost.

You are required to calculate

(i) P/V Ratio and Break- even point.

(ii) If the selling price is reduced by 20%,

Ascertain:

(A) The effect of price reduction on the P/V Ratio and BEP.

(B) The number of units required to be sold at the reduced selling price to obtain an increase of 20% over the budgeted profit. 8

(b) AVONA LTD., a toy factory presents the following information for the year ended 31st March, 2018:

	Rs.
Material cost	**1,20,000**
Labour cost	**2,40,000**
Fixed overheads	**1,20,000**
Variable overheads	**60,000**
Units produced	**12,000**
Selling Price per Unit	**50**

The available capacity is a production of 20000 units per year. The firm has an offer for the purchase of 5000 additional units at a price of Rs.40 per unit. It is expected that by accepting this offer there will be a saving of rupee one per unit in material cost on all units manufactured, the fixed overhead will increase by Rs.35,000 and the overall efficiency will drop by 2% on all production.

State whether offer is acceptable or not. 7

Answer: 6 (a)

Workings:

Statement Showing Unit Sales Price

Particulars	Rs.
Budgeted Variable Cost per Unit	20.00
Budgeted Fixed Cost per Unit (Rs.20,00,000 / 5,00,000)	4.00
Total Budgeted Cost per Unit	24.00
Add : Profit (25% on Total Cost)	6.00
Per unit selling price	30.00

Statement of Budgeted Profit

Particulars	Rs.
Budgeted Sales (5,00,000 × Rs.30)	1,50,00,000
Less : Variable Cost (5,00,000 × Rs.20)	1,00,00,000
Contribution	50,00,000
Less : Budgeted Fixed Cost	20,00,000
Budgeted Profit	30,00,000

OR

Budgeted Profit = Contribution (C)per Unit X Total Production Units – Fixed Cost

= {(Rs. 30 – Rs. 20) X 5,00,000} – Rs. 20,00,000 = Rs. 30,00,000

I P/V Ratio = (Contribution/ Sales) X 100 = (50,00,000/1,50,00,000) X 100 =(100/3)%

Or , P/V ratio = $\frac{10}{30}\times 100 = 33\frac{1}{3}\%$ **(Or 100/3%)**

BEP (in units) = $\frac{F}{C \text{ per unit}} = \frac{20,00,000}{10} = 2,00,000 \text{ units}$

Or , BEP (in Rs.) = $\frac{F}{P/V \text{ Ratio}} = \frac{`\ 20,00,000}{33\frac{1}{3}\%} = `\ 60,00,000$

II (a) New P/V ratio = $\frac{\text{New C}}{\text{New SP}}\times 100 = \frac{`\ 24-20}{`\ 30-6}\times 100 = 16\frac{2}{3}\%$ **(or 50/3%)**

New BEP (in Units) = $\frac{\text{Fixed cost}}{\text{New SP - VC}} = \frac{`\ 20,00,000}{`\ 24-20} = 5,00,000 \text{ units}$

Or , New BEP (in **Rs.**) = (F/ New P/V ratio) = (20,00,000/50/3%)= 1,20,00,000

(b) Sales units needed to attain 20% more than Budgeted Profit at reduced Selling Price.

Desired profit = Budgeted Profit + 20% of Budgeted Profit

= 30,00,000 + 6,00,000 = **Rs.**36,00,000

Sales (units) required = $\frac{\text{Fixed costs + Desired profit}}{\text{Contribution per unit}}$

= $\frac{20,00,000 + 36,00,000}{`\ 4 \text{ per unit}} = 14,00,000 \text{ units}$

Answer: 6 (b)

Profitability Statement for the year ended31st March, 2018

Particulars		Total Rs.	Per unit Rs.
Sales	(A)	6,00,000	50

Variable Cost:			
Materials		1,20,000	10
Labour		2,40,000	20
Variable overhead		60,000	5
Total	(B)	4,20,000	35
Contribution	(A) – (B)	1,80,000	15
Less: Fixed overheads		1,20,000	10
Profit		60,000	5

Profitability Statement (17000 units at 85% capacity) → (including 5,000 units special offer)

		Rs.	Mark/s
Sales			
Existing:	(12000x Rs.50)	6,00,000	
Additional:	(5000x Rs.40)	2,00,000	
	17,000 Units Total (A)	8,00,000	**0.5 +0.5**
Variable Cost :			
Material (17,000 × (Rs. 10 – Re. 1) or (17000 x Rs.9)		1,53,000	**0.5**
Labour (17,000× (Rs. 20 – 2% Drop) or (17000 x 20.40)		3,46,800	**0.5**
Variable Overhead	(17000 xRs. 5)	85,000	
Total (B)		5,84,800	**0.5**
Contribution	(A) – (B)	2,15,200	**0.5**
Less: Fixed Costs (Rs. 1,20,000 + Rs.35,000 increase)		1,55,000	**0.5**
Profit		60,200	**0.5**

Analysis: With the acceptance of special offer of 5,000 Units, the Profit is increased by Rs. 200 (i.e. Rs. 60,200 – Rs. 60,000). Hence, the firm can accept the special offer.

[Working Notes as under may be shown separately or as shown in above table "Profitability Statement"]

	Rs.
1. Material cost per unit	10
Less : 10% decrease	1
Total	9
2. Labour Cost per unit	20.00
Add : 2% drop in efficiency	0.40
Total	20.40
3. Present Production units	12,000
Add : Addl. Production units	5,000
Total	17,000
4. Present Fixed Cost	1,20,000
Add: Increase	35,000
Total	1,55,000

Alternative

Labour Cost if taken at Rs.20.41 in the working. An alternative answer with an incremental approach lead to the same analysis.

PARTICULARS	Amount in Rs.
Sales (5000*40)	2,00,000
Less: Variable Cost:	
Direct Materials (DM)(5000*9)	45,000
Direct Labour (DL)(5000*20)/0.98	1,02,041
Variable Overheads (VO/Hs)(5000*5)	25,000
Contribution	27,959
Add :Savings in Materials (12000*1)	12,000
Less: Additional Labour Cost (ADLC) (12000*0.41)	4,920
Less: Increase in Fixed cost	35,000
Net Surplus	39
Decision : It is better to Accept the offer	

7. (a) The details regarding the composition and the weekly wage rates of labour force of PB LTD engaged on a job scheduled to be completed in 30 weeks are as follows:

Category of Workers	Standard		Actual	
	No. of Workers	Weekly Wage Rate per worker (Rs.)	No. of Workers	Weekly Wage Rate per worker (Rs.)
Skilled	**75**	**60**	**70**	**70**
Semi-Skilled	**45**	**40**	**30**	**50**
Unskilled	**60**	**30**	**80**	**20**

The work is actually completed in 32 weeks.
Calculate the following Labour Variances: 8

(i) Labour Cost Variance (LCV)
(ii) Labour Rate Variance (LRV)
(iii) Labour Efficiency Variance (LEV)
(iv) Labour Revised Efficiency Variance (LREV)
(v) Labour Mix Variance (LMV)

(b) NP LTD produces a standard product. The estimated costs are given below:

	Rs.
Raw Materials	**10**
Direct Wages	**8**
Direct Expenses	**2**
Variable Overheads	**3**

	23

Semi-variable overheads at 100% capacity level (10,000 units) are expected to be Rs.40,000 and these overheads vary in steps of Rs.2,000 for each change in output of 1,000 units. Fixed overheads are estimated at Rs.50,000. Selling price per unit is expected to be Rs.40.

Required:
Prepare a Flexible Budget at 50%, 70% and 90% level of activity on marginal cost basis. 7

Answer: 7 (a)

In the question no information is given regarding standard time and actual time, so it is computed as follows :

(In Weeks)

Category	**Standard time (ST)**	**Actual Time (AT)**
Skilled	75 × 30 = 2,250	70 × 32 = 2,240
Semiskilled	45 × 30=1,350	30 × 32 = 960
Unskilled	60 × 30=1,800	80 × 32 = 2,560

Now all information can be arranged as follows :

Category	**Standard**			**Actual**			**Revised**
	Time	**Rate**	**Cost**	**Time**	**Rate**	**Cost**	**Time**
	ST	**SR (Rs.)**	**SC(Rs.)**	**AT**	**AR(Rs.)**	**AC(Rs.)**	**RST**
Skilled	2,250	60	1,35,000	2,240	70	1,56,800	2,400
Semiskilled	1,350	40	54,000	960	50	48,000	1,440
Unskilled	1,800	30	54,000	2,560	20	51,200	1,920
Total	5,400	-	2,43,000	5,760	-	2,56,000	5,760

Revised standard time is computed as follows:

Skilled worker : $\frac{2,250}{5,400} \times 5,760 = 2,400 \text{ hrs}$.

Semiskilled worker : $\frac{1,350}{5,400} \times 5,760 = 1,440 \text{ hrs.}$

Unskilled worker : $\frac{1,800}{5,400} \times 5,760 = 1,920 \text{ hrs.}$

Variances are computed as follows:

LCV = TSC – TAC = 2,43,000-2,56,000 = Rs. 13,000 (A)

(i) LRV = AT (SR – AR)

Skilled : 2,240 (60 – 70) = Rs. 22,400 (A)

Semiskilled : 960 (40 – 50) = Rs. 9,600 (A)

Unskilled : 2,560 (30 – 20) = Rs. 25,600 (F) Rs. 6,400 (A)

(ii) LEV = SR (ST-AT)

Skilled : 60 (2,250 – 2,240) = Rs. 600 (F)

Semiskilled : 40 (1,350 – 960) = Rs. 15,600 (F)
Unskilled : 30 (1,800 – 2,560) = Rs. 22,800 (A) Rs. 6,600 (A)

(iii) LREV = SR (ST – RST)
Skilled : 60 (2,250 – 2,400) = Rs. 9,000 (A)
Semiskilled : 40 (1,350 – 1,440) = Rs. 3,600 (A)
Unskilled : 30 (1,800 – 1,920) = Rs. 3,600 (A) Rs. 16,200 (A)

(iv) LMV = SR (RST – AT)
Skilled : 60 (2,400 – 2,240) S = Rs. 9,600 (F)
Semiskilled : 40 (1,440 – 960) = Rs. 19,200 (F)
Unskilled : 30 (1,920 – 2,560) = Rs. 19,200 (A) Rs. 9,600 (F)

Answer to Question No. 7 (b):

Flexible Budget

Particulars	Capacity Levels		
	50%	70%	90%
Output in Units	5,000	7,000	9,000
Prime Cost:	Rs.	Rs.	Rs.
Materials	50,000	70,000	90,000
Direct Wages	40,000	56,000	72,000
Direct Expenses	10,000	14,000	18,000
	1,00,000	1,40,000	1,80,000
Variable Overheads	25,000	35,000	45,000
Marginal Cost (1 + 2)	1,25,000	1,75,000	2,25,000
Sales	2,00,000	2,80,000	3,60,000
Contribution (4 – 3)	75,000	1,05,000	1,35,000
Fixed Costs	70,000	70,000	70,000
Profit (5 – 6)	5,000	35,000	65,000

Working Note:
Semi – variable Expenses have been classified into Fixed and Variable elements as under :
Per Unit Variable Cost = Rs.2000 ÷ 1,000 = Rs. 2

Fixed Costs = Rs.40,000 – Rs.(10,000 x 2) = Rs. 20,000

Total Variable Overheads per Unit = Rs 3+ Rs. 2 = Rs. 5

Total Fixed Overhead = Rs.50,000 + Rs. 20,000 = Rs. 70,000

8. Answer any three out of the following four questions: 5×3= 15
(a) State the advantages of cost control (any five).

(b) Describe briefly the main scope of cost accountancy.

(c) What is just-in-time (JIT) system? List out its main benefits.

(d) Write a brief note on Performance Budgeting describing its main concepts.

Answer to Question No. 8 (a):

Advantages of Cost Control

The advantages of cost control are mainly as follows:

(i) Achieving the expected return on capital employed by maximising 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.

Answer to Question No. 8 (b):

Scope of Cost Accountancy

The scope of cost accountancy is very wide and includes the following:

(a) **Cost Ascertainment**: The main objective of cost accounting is to find out the cost of product/service rendered with reasonable degree of accuracy.
(b) **Cost Accounting**: It is the process of accounting for cost which begins with recording of expenditure and ends with preparation of statistical data.
(c) **Cost Control**: It is the process of regulating the action so as to keep the element of cost within the set parameters.
(d) **Cost Reports**: This is the ultimate function of Cost Accounting. These reports are primarily prepared for use by the management at different levels. Cost Reports help in planning and control, performance appraisal and managerial decision making.
(e) **Cost Audit**: Cost Audit is the verification of correctness of Cost Accounts and check on the adherence to the Cost Accounting Plan, its purpose is not only to ensure the arithmetic accuracy of cost records but also to see the principles and rules have been applied correctly.

Answer to Question No. 8 (c):

Just –in –Time (JIT)

Just in Time is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. Inventory is seen as incurring costs, or waste, instead of adding and storing value, contrary to traditional accounting. In short, the just-in-time inventory system focuses on "the right material, at the right time, at the right place, and in the exact amount" without the safety net of inventory.

The benefits of Just-in-Time system are as follows:

(a) Increased emphasis on supplier relationships. A company without inventory does not want a supply system problem that creates a part shortage. This makes supplier relationships extremely important.
(b) Supplies come in at regular intervals throughout the production day. Supply is synchronized with production demand and the optimal amount of inventory is on hand at any time. When parts move directly from the truck to the point of assembly, the need for storage facilities is reduced.
(c) Reduces the working capital requirements, as very little inventory is maintained.
(d) Minimizes storage space.
(e) Reduces the chance of inventory obsolescence or damage.

Answer to Question No. 8 (d):

Performance Budgeting

Performance Budgeting is synonymous with Responsibility Accounting which means the responsibility of various levels of Management is predetermined in terms of output or result keeping in view the authority vested with them.

The main concepts of such a system are enumerated below:

(a) It is based on a classification of managerial level for the purpose of establishing a budget for each level. The individual in-charge of that level should be made responsible and held accountable for its performance over a given period of time.
(b) The starting point of the performance budgeting system rests with the organisation chart in which the spheres of jurisdiction have been determined. Authority leads to the responsibility for certain costs and expenses which are forecasted or present in the budget with the knowledge of the manager concerned.
(c) The cost in each individual`s or department`s budget should be limited to the cost controllable by him.
(d) The person concerned should have the authority to bear the responsibility.
