Chapter- 6

Decision Making

MCQs on Relevant Costing

Question: 1

Materials have just been received for Rs 60,000. These are extremely toxic, and if not used in the project, have to be disposed of by special means at Rs 15,000. Relevant cost of material?

A . Rs 60,000/-

B. Rs 15,000/-

C. (Rs 15,000/-) Benefit

D. Rs 45,000/-

Question: 2

Labour: Rs 75,000. The men are highly skilled. If they are released from the Research Project, they may be transferred to work department of the Company and consequently the sales could increase by Rs 1,50,000. The Accountant estimates that the Prime Cost of those sales would be 1,00,000 and the Overhead absorbed (all fixed) would amount to Rs 25,000. Find Relevant Cost.

A. Rs 1,25,000/-

B. Rs 75,000/-

C. Rs 1,00,000/-

D. Rs 1,50,000/-

Question: 3

Labour Costs would be Rs 8,000. Labour is in short supply, and if the machine is not finished, the work force could be switched to another job, which would earn Rs 30,000 in revenue, and incur Direct Costs (not including Direct Labour), of Rs 12,000 and absorbed fixed overheads of Rs 8,000.

A. Rs 8,000/-
B. Rs 18,000/-
C. Rs 26,000/-
D. Rs 30,000/-

Question: 4

Research Staff: Rs 1,60,000. A decision has already been taken that this will be the last major piece of research undertaken and consequently, when work on the project

ceases, the staff involved will be made redundant. Redundancy and Severance Pay have been estimated at Rs 25,000.

A. Rs 1,60,000/-
B. Rs 25,000/-
C. Rs 1,85,000/-
D. Rs 1,35,000/-

Question: 5 (Material)

ABC Ltd has been approached by a customer who would like a special job to be done for him, and who is willing to pay Rs. 22,000 for it. The job would require the following materials.

Material	Total units required	Units already in stock	Book value of units in stock	Realizable Value	Replacement Cost
A	1,000	0	-	-	Rs 6 p.u
B	1,000	600	Rs 2 p.u	Rs 2.50 p.u	Rs 5 p.u
C	1,000	700	Rs 3 p.u	Rs 2.50 p.u	Rs 4 p.u
D	200	200	Rs 4 p.u	RS 6.00 p.u	Rs 9 p.u

Material B is used regularly by ABC Ltd and if units of B are required for this job, they would need to be replaced to meet other production demand.

Material C and D are in stock as the result of previous over – buying and they have a restricted use. No other use could be found from material C, but the units of material D could be used in another job as substitute for 300 units of material E, which currently costs Rs. 5 per unit (of which the Company has no units in stock at the moment).

1. Compute the relevant costs of materials for Material A
   A. Rs 6,000/-
   B. Rs 5,000/-
   C. Nil
   D. Rs 4,000/-

2. Compute the relevant costs of materials for Material B
   A. Rs 3,000/-
   B. Rs 1,500/-
   C. Rs 1200/-
   D. Rs 4,000/-

3. Compute the relevant costs of materials for 1000 units of Material B

A. Rs 1,750/-
B. Rs 2,950/-
C. Rs 1200/-
D. Rs 550/-

4. Compute the relevant costs of materials for 1000 units of Material B
   A. Rs 1,200/-
   B. Rs 1,500/-
   C. Rs 2,700/-
   D. Rs 300/-

Question: 6

Equipment to be used in producing the order has a Book Value of Rs. 2,000. The Equipment has no other use for Noida Camera Company. If the order is not accepted, the Equipment will be sold for Rs. 1,500. If the Equipment is used in producing the order, it can be sold in three months for Rs. 800.

Find Relevant Cost?

A. Rs 700/-
B. Rs 1500/-
C. RS 800/-
D. Rs 2300/-

Question-7

If the Special Order is accepted, the operation will require some of the storage space in the Company's Plant. If the space is used for this purpose, the Company will rent storage space temporarily in a nearby warehouse at a cost of Rs. 18,000. The Building Depreciation allocated to the Storage Space to be used in producing the special order is Rs. 12,000. Relevant Cost is ……

A. Rs 18,000/-
B. Rs 12,000/-
C. Rs 30,000/-
D. Rs 6,000/-

Question-8:

If the Special Order is accepted, it will require a sub-assembly. Noida Camera can purchase the Sub-Assembly for Rs. 24 per unit from an Outside Supplier or make it for Rs. 30.00 per unit. The Rs. 30.00 per unit was determined as follows:

Particulars	Rs
Direct Material	10.00

Direct Labour	6.00
Variable Overhead	6.00
Apportioned Fixed Overhead	8.00
Total Unit Cost of Sub-Assembly	**30.00**

Relevant Cost is…….

A. Rs 30/-
B. Rs 22/-
C. Rs 24/-
D. Rs 54/-

Question: 9 (Material & Labour)

XL Polymers, located in Sahibabad Industrial Area, manufactures high quality industrial products. AT Industries has asked XL Polymers for a special job that must be completed within one week.

Raw material R1 (highly toxic) will be needed to complete the AT Industries' special job. XL Polymers purchased the R1 two weeks ago for Rs. 7,500 for a job 'A' that recently was completed. The R1 currently in stock is the excess from that job and XL Polymers had been planning to dispose of it. XL Polymers estimates that it would cost them Rs. 1,250 to dispose of the R1. Current replacement cost of R1 is Rs. 6,000.

Special job will require 250 hours of labour G1 and 100 hours of labour G2. XL Polymers pays their G1 and G2 employees Rs. 630 and Rs. 336 respectively for 42 hours of work per week.

XL Polymers anticipates having excess capacity of 150 [G1] and 200 [G2] labour hours in the coming week. XL Polymers can also hire additional G1 and G2 labour on an hourly basis; these part-time employees are paid an hourly wage based on the wages paid to current employees.

Suppose that material and labour comprise XL Polymers' only costs for completing the special job.

Required

What would be the 'Minimum Price' that XL Polymers should bid on this job?

A. Rs 250/-
B. Rs 1500/-
C. Rs 1250/-
D. Rs 2750/-

Question: 10 (Labour)

Department B is extremely busy, its Direct Wages Rate is Rs 100 per man-day and it is currently yielding a contribution of Rs 3.20 per rupee of Direct Wages. Department B-25 man days. Relevant cost is …….

A. Rs 2500/-
B. Rs 8,000/-
C. Rs 10,500/-

D. Rs 6,500/-

Classifications

Question: 1 (Discretionary V/s Committed Fixed Cost)

Pick out from each of the following items, costs that can be classified under 'committed fixed costs' or 'discretionary fixed costs".

(i) Annual increase of salary and wages of administrative staff by 5% as per agreement

(ii) New advertisement for existing products is recommended by the Marketing Department for achieving sales quantities that were budgeted for at the beginning of the year.

(iii) Rents paid for the factory premises for the past 6 months and the rents payable for the next six months. Production is going on in the factory.

(iv) Research costs on a product that has reached 'maturity' phase in its life cycle and the research costs which may be needed on introducing a cheaper substitute into the market for facing competition.

(v) Legal consultancy fees payable for patent rights on a new product Patenting rights have been applied for.

Question-2 (Cost Classification)

(i) An advertising program has been set and management has signed the non-negotiable contract for a year with an agency. Under the terms of contract, agency will create 5 advertisements within the contract duration for the company and company will pay Rs. 12,00,00 for each advertisement.

(ii) A manger has to decide to run a fully automated operation that produces 1,00,000 widgets per year at a cost of Rs. 12,00,000 or of using direct labour to manually produce the same number of widgets for Rs. 14,00,000.

(iii) A Company had paid Rs. 5, 00,000 a Marketing Research company to find expected demand of the newly developed product of the company.

(iv) A company has invested Rs. 36 Lakhs in a project. Company could have earned Rs. 2 Lakhs by investing the amount in Government securities.

(v) A Oil Refining Co. has paid a salary of Rs. 20, 00,000 to the chairman for a particular year. The Company has sold 25 MT of Oil in that particular year.

(vi) Accountant of a cloth factory paid Rs. 25,000 for water that has been used for washing clothes before they go for final drying process.

Solution:

(i) Committed Cost

Reason: Company cannot negotiate the price of advertisement in future and it has to make payment as soon as advertisement is prepared.

(ii) Differential Cost

Reason: In case of decision making among two alternatives, every manager has to compare the difference in cost involved.

(iii) Sunk Cost

Reason: Research expense has already been incurred and it will not affect any decision making in future.

(iv) Opportunity Cost

Reason: Income from government securities is the amount that company has forgone to earn income from its investment in the project.

(v) Period Cost

Reason: Salary of chairman is paid irrespective of productivity of the company.

(vi) Direct Cost

Reason: Amount paid for water can be directly attributed to the cost of finished product that is clothes.

Basic Questions

Question-4

A Company can make any one of the 3 products X, Y or Z in a year. It can exercise its option only at the beginning of each year. Relevant information about the products for the next year is given below:

	X	Y	Z	
Selling Price	Rs 10 per unit	Rs 12 per unit	Rs 12 per unit	
Variable Costs	Rs 6 per unit	Rs 9 per unit	Rs 7 per unit	
Market Demand (units)	3,000	2,000	1,000	
Production Capacity (units)	2,000	3,000	900	
Fixed Costs				Rs 30,000

You are required to compute the Opportunity Costs for each of the products.

Solution:

Particulars	X	Y	Z
1. Selling Price	Rs. 10 per unit	Rs. 12 per unit	Rs. 12 per unit
2. Variable Costs	Rs. 6 per unit	Rs. 9 per unit	Rs. 7 per unit
3. Contribution per unit	Rs. 4 per unit	Rs. 3 per unit	Rs. 5 per unit
4. Market Demand	3,000 units	2,000 units	1,000 units
5. Production Capacity (units)	2,000 units	3,000 units	900 units

6. Effective Production (least of 4 and 5)	2,000 units	2,000 units	900 units
7. Possible Total Contribution (6 × 3)	Rs. 8,000	Rs. 6,000	Rs. 4,500
8. Opportunity Costs (highest of Opportunity Costs is relevant)	**Rs. 6,000**	**Rs. 8,000**	**Rs. 8,000**

Question-5

Mr.X has taken a shop on lease and made a down payment of Rs 2,50,000. Additionally, the rent under lease amount is Rs 96,000 per annum. If the lease agreement is cancelled by Mr.X, then the initial payment is forfeited. Mr.X plans to use the shop for the general stores business, and has estimated operations for the next year as follows-

Sales	25,00,000	
Less: Value Added Tax	2,80,000	
Sales after VAT		22,20,000
Costs of Goods Sold	12,50,000	
Wages and Wages related Cost	2,76,000	
Rent Including Down Payment	3,46,000	
Rates, Lighting & Insurance	2,80,000	
Audit, Legal & General Expenses	50,000	22,02,000
Net profit before tax		18,000

In the business, Mr.X will be devoting half of his time, however no provision has been made for his remuneration/Salary. Mr.X also has an option to sub-let the shop to his friend for a monthly rent of Rs 18,000, if he does not use the shop himself. You are required to -

1. Identify the Sunk and Opportunity Cost in the above problem.
2. State the most profitable decision, which should be taken by Mr.X. Support your answer with appropriate calculation.

Solution:

1. **Sunk Cost:** Down payment of Rs. 2,50,000 paid by Mr. X for lease is a Sunk Cost. The amount is already incurred and Mr. X will not be refunded even if the lease agreement is cancelled.

2. **Opportunity Cost:** If the Shop is used by Mr. X himself, he will not be able to receive monthly rent of Rs. 18,000 by sub-letting the shop.

3. Net Relevant Contribution from own business:

	Particulars	Rs.	Rs.
	Sales less VAT		22,20,000
Less:	Relevant Cost of business		
	COGS	12,50,000	
	Wages	2,76,000	
	Rates, Lighting 8<. Insurance	2,80,000	
	Audit, Legal and General	50,000	18,56,000

Net Contribution		**3,64,000**

Note:

(a) Audit, Legal and General Expenses are assumed as specifically reiatabie to business activity, and hence Relevant Cost.

(b) Rent is incurred whether own business is carried on, or whether the premises is let out, and hence not considered.

Conclusion: Since the above benefit is higher than Rental Income from sub-letting (Rs. 18,000 × 12 months = Rs. 2,16,000), it is advisable for Mr. X to run his own stores business, rather than sub-let property.

Question-6

A Company has nearly completed a job relating to construction of a specialised equipment when it discovered that the customer had gone out of business. At this stage, the position of the job was as under-

Original Cost Estimate	Rs 1,75,200
Costs Incurred so far	Rs 1,48,500
Costs to be incurred	Rs 29,700
Progress Payments received from Original Customer	Rs 1,00,000

After search, a new customer for the equipment has been found. He is interested to take the equipment, if certain modifications are carried out. The new customer wanted the equipment in its original condition, but without its control device and with certain other modifications. The costs of these additions and modifications are estimated as under-

Direct Material (at cost)	Rs 1,050
Direct Wages	Department A-15 man days,
Department B- 25 man days	
Variable Overheads	25% of Direct Wages in each Department
Delivery Costs	Rs 1,350

Fixed Overheads will be absorbed at 50% of Direct Wages in each department.

The following additional information is available-

1. The Direct Materials required for the modification are in stock and if not used for modification of this order, they will be used in another job in place of materials that will now cost Rs 2,250.
2. Department A is working normally, and hence any engagement of labour will have to be paid at Direct Wage Rate of Rs 120 per man-day.
3. Department B is extremely busy, its Direct Wages Rate is Rs 100 per man-day and it is currently yielding a contribution of Rs 3.20 per rupee of Direct Wages.
4. Supervisory Overtime payable for the modification is Rs 1,050.
5. The cost of the Control Device that the new customer does not require is Rs 13,500. If it is taken out, it can be used in another job in place of a different

mechanism. The latter mechanism has otherwise to be bought for Rs 10,500. The dismantling and removal of the control mechanism will take 1 man day in Department A.

6. If the conversion is not carried out, some of the materials in the original equipment can be used in another contract in place of materials that would have costs Rs 12,000. It would have taken 2 man days of work in Department A to make them suitable for this purpose. The remaining materials will realize Rs 11,400 as scrap. The drawings, which are included as part of the job, can be sold for Rs 1,500.

7. Calculate the Minimum Price, which the Company can afford to quote for the new customer as stated above.

Solution:

Particulars	**Nature and Computation**	**Rs.**
(a) Original Cost estimate	Relates to old conditions. Hence, Historical and Irrelevant.	Nil
(b) Cost incurred so far	Historical and Irrelevant.	Nil
(c) Cost to be incurred	Equipment is to be completed to original specification. Hence, it is relevant as Out-of-Pocket Cost.	29,700
(d)Progress Payments received	Historical and Irrelevant.	Nil
(e) Direct Materials	Already in Stock, but will have to be replaced. Hence, Book Value is irrelevant. Replacement Cost is relevant as Out-of-Pocket Cost.	2,250
(f) **Labour - Dept.A**	Variable and Relevant = 15 man days × Rs. 120	1,800
(g) **Labour - Dept.B**	Variable and Relevant = 25 man days × Rs. 100	2,500
(h) **Dept B - Contribution**	Foregone if this contract is accepted. So, Benefit Lost is relevant as Opportunity Cost. (Rs. 2,500 × Rs. 3.20 per rupee of Direct Labour)	8,000
(i) Variable Overheads	Relevant for the Contract = 25% of (Rs. 1,800 + Rs. 2,500)	1,075
(j) Delivery Costs	Specific and Relevant	1,350
(k) Fixed Overheads	Apportioned / Absorbed, and hence irrelevant.	Nil
(I) Supervisory Overtime	Payable specifically for the modification. Hence, relevant.	1,050
(m) Cost of Control Device	Already incurred - irrelevant	Nil
(n) Substitution Benefit of Control Device	Not required for this contract, and hence can be substituted and benefit derived therefrom. So, this constitutes Opportunity Gain. (Amount Saved - Labour - VOH at 25%) = Rs. (10,500 -	(10,350)

	120 - 30)	
(o) Substitution Benefit of some Old Materials	This is not earned if this contract is accepted, and relevant as Opportunity Costs. (Amount not earned - Labour - VOH at 25%) = 12,000 - 240 - 60	11,700
(p) Benefit from scrapping	Not earned if contract is accepted. Hence, this is an Opportunity Cost.	11,400
(q) Sale of Drawings	Opportunity Costs for accepting the contract.	1,500
	Minimum Price to be quoted = Total Relevant Costs for the Contract	61,975

Question-8

A Research Project, to date, has cost a Company Rs 2,50,000 and is under review. It is anticipated that, should the project be allowed to proceed, it will be completed in about one year and can be sold for Rs 4,00,000. The following additional information is available -

1. Materials have just been received for Rs 60,000. These are extremely toxic, and if not used in the project, have to be disposed of by special means at Rs 15,000.
2. Labour: Rs 75,000. The men are highly skilled. If they are released from the Research Project, they may be transferred to work department of the Company and consequently the sales could increase by Rs 1,50,000. The Accountant estimates that the Prime Cost of those sales would be 1,00,000 and the Overhead absorbed (all fixed) would amount to Rs 25,000.
3. Research Staff: Rs 1,60,000. A decision has already been taken that this will be the last major piece of research undertaken and consequently, when work on the project ceases, the staff involved will be made redundant. Redundancy and Severance Pay have been estimated at Rs 25,000.
4. Share of General Building Expenses: Rs 35,000. The Managing Director is not sure what is included in this amount, but the accounts staff charge similar amounts each year to each Department.

You are required to advise whether the project should be allowed to proceed and explain the reasons for the treatment of each of the amount above is your analysis.

Solution:

Particulars	Nature and Computation	Rs.
1. Cost incurred till date	Historical and irrelevant	Nil
2. Materials	Already purchased. Hence Historical and irrelevant.	Nil
3. Disposal Cost	Not incurred if project is continued. Hence Opportunity Gain, relevant	(15,000)
4. Labour	Has alternative use. So, Variable Cost + Opportunity Cost is relevant. Variable Cost = 75,000	1,25,000

	Opportunity Cost = Contribution Lost =1,50,000-1,00,000 = 50,000 (Note: Absorbed FOH is not relevant in determining Opportunity Cost).	
5. Research Staff	Variable Cost. Hence Relevant.	1,60,000
6. Redundancy & Severance Pay	Decision already taken, and hence, Committed and Irrelevant Cost..	Nil
7. Share of General OH	Apportionment. Hence irrelevant.	Nil
	Additional Cost of continuing the Project	2,70,000

Question-9

A Company had been making a machine to order for a customer, but the customer has since gone into liquidation, and there is no prospect that any money will be obtained from the winding up to the Company.

Costs incurred to date in manufacturing the machine are Rs 50,000 and Progress Payments of Rs15,000 have been received from the customer prior to the liquidation.

The Sales Department has found another company willing to buy the machine for Rs 34,000 once it has been completed. To complete the work, the following costs would be incurred.

a) Materials - These have been bought at a cost of Rs 6,000. They have no other use, and if the machine is not finished, they would be sold for scrap for Rs 2,000.

b) Further labour Costs would be Rs 8,000. Labour is in short supply, and if the machine is not finished, the work force could be switched to another job, which would earn Rs 30,000 in revenue, and incur Direct Costs (not including Direct Labour), of Rs 12,000 and absorbed fixed overheads of Rs 8,000.

c) Consultancy Fees Rs 4,000. If the work is not completed, the Consultant's contract would be cancelled at a cost of Rs 1,500.

d) General Overheads of Rs 8,000 would be added to the cost of the additional work.

Should the new customer's offer be accepted? Prepare a statement showing the economics of the proposition.

Solution:

Particulars	Nature and Computation	Rs.
Cost till date	Already incurred. Hence, historical and irrelevant.	Nil
Progress Payments	Already received from Old Customer. Hence, historical and irrelevant.	Nil
Materials	Already purchased, hence cost of Rs. 6,000 is historical and irrelevant. However, Scrap Value lost is relevant as Opportunity Cost.	2,000
	Due to short supply of Labour, Variable Costs + Opportunity	

Labour	Costs are relevant. (a) Variable Costs (given) (b) Opportunity Cost = Contribution foregone on another job = Revenue less (Material + Labour) = 30,000 - (8,000 + 12,000) Note: Absorbed Fixed Costs are not relevant in calculating Contribution lost.	8,000 10,000
Consultancy	Incremental Cost of retaining the Consultant is relevant (Rs. 4,000 - Rs. 1,500)	2,500
General OH	Apportionment of Cost, hence irrelevant.	Nil
	Total Relevant Cost of completing the machine	**22,500**

Conclusion: Additional Net Benefit if the machine is completed = Additional Revenue Rs. 34,000 - Additional Costs as above Rs. 22,500 = Rs. **11,500**. Hence, the new Customer's offer may be accepted.