Week 2 additional Exercises

WEEK 2: RELEVANT COSTING (CHAPTER 2): ADDITIONAL EXERCISES

Q1: A business purchased a tonne of material X at total cost of £3,000. The materialis no longer used in business due not meeting specific product quality criteria. Currently, it could be sold a scrap value of £1,000 immediately. Alternatively, it could be used as a substitute for another type of material Z that normally costs £6,000 per tonne to purchase. However, it will require £2,000 per tonne for further processing before it can be used as substitute. Current replacement cost for material X is £5,000.

Required: What is the relevant cost of the material X per tonne? (2 points)

Q2:

Inventory	Historic cost (£/unit)	Sales value (£/unit)	Replacement cost (£/unit)
Component X	7	10	12
Component y	25	18	22
Component z	30	45	50

Component X is in constant use in business. We currently have 120 units of Component X. Component Y was bought several years agoand there are 300 units in stock which has no current use in business. It could be sold at salesvalue of £18 per unit. Component Z is in constant use in business. We currently have 20 units of Component Z. For a New Project 1, we need 100 units of Component X and 400units of Component Yand 100 units of Component Z.

Required: Calculate the total relevant cost to be included for components X, Y and Z for this New Project1 and briefly explain the rationale for your choice for each component. (10 points)

Q3. Astra Controls Ltd is an electronic engineering business that specialises in the production of electronic surveillance equipment for security forces throughout the world. Recently it has received a request to produce 10 'Peeping Tom' surveillance units for a foreign government. The Peeping Tom was developed some time ago by the business at a total research and development cost of £220,000. So far there has been no interest shown in the equipment and no units

have been produced. The present order seems likely to represent the total sales for the Peeping Tom. The product specification for each unit is set out below:

1. Materials
   (a) Component A3 per unit Component B1 per unit Component C2 per unit
   (b) Component A is normally held in inventories as it is widely used throughout the business's product range. There are 15 components currently held. These had cost £1,800 each. The sole supplier of this component has announced an immediate price rise of 5% for further purchases.
   (c) Component B is no longer used for any other of the business's products. At present there are six components in inventories costing £2,000 each. It is possible to buy additional components at a cost of £2,200 each; however, the supplier insists on a minimum order quantity of six components. Any components that are not used on this contract will be disposed of at a total cost to the business of £300, irrespective of the quantity to be disposed of.
   (d) Component C is used by the business throughout its product range. At present there is none in inventories. However, an order for 20 components for use in another contract is about to be placed. The supplier normally charges £1,700 per component but for orders above 30 components a discount of 10% is available on the total order price.
   (e) Additional materials costing £4,200 in total will have to be bought if the contract is undertaken.
2. Labour Assembly
   (a) time is estimated at 10 hours for each Peeping Tom unit. The workforce required toassemble the product is paid £8.00 an hour and is ingreat demand. If the order is accepted the necessary labour will have to be transferred from existing work and, as a result, other orders will be lost. It is estimated that for each hour that labour is transferred to this product £60.00 of sales revenue willbe lost but that savings of £20.00 an hour in materials relating to lost sales will be made.
   (b) Inspection time is estimated at five hours for each Peeping Tom unit. Inspection labour can be provided by paying existing employees overtime which is paidat 25% premium over the standard rate of £8.00 an hour.
3. Overheads The business normally includes a mark-up of 40% to cover overheads.

This contract is not expected to give rise to any increases in overheads. Required: Prepare an estimate of the absolute minimum price that Astra Controls Ltd could undertake the contract so as to leave the business no worse off as a result. Your answer should clearly explain your treatment of all of the information givenin the question. (25points)