JUST IN TIME

*Question 1: B Ltd. has decided to adopt JIT policy for materials. The following effects of JIT policy are identified-

1. To implement JIT, the company has to modify its production and material receipt facilities at a capital cost of Rs.10,00,000. The new machine will require a cash operating cost Rs.1,08,000 p.a. The capital cost will be depreciated over 5 years.
2. Raw material stockholding will be reduced from Rs.40,00,000 to Rs.10,00,000.
3. The company can earn 15% on its long-term investments.
4. The company can avoid rental expenditure on storage facilities amounting to Rs.33,000 per annum. Property.

   Taxes and insurance amounting to Rs.22,000 will be saved due to JIT programme.
5. Presently there are 7 workers in the store department at a salary of Rs.5,000 each per month. After implementing JIT scheme, only 5 workers will be required in this department. Balance 2 workers' employment will be terminated.
6. Due to receipt of smaller lots of Raw Materials, there will be some disruption of production. The costs of stock-outs are estimated at Rs.77,000 per annum.

Determine the financial impact of the JIT policy. Is it advisable for the company to implement JIT system?

Question 2: Altra Video Company sells package of blank video tapes to its customers. It purchases video tapes from Yash Tape Company at Rs.150 per packet. Yash Tape Company pays all freight to Altra Video Company. No incoming inspection is necessary because Yash Tape Company has a superb reputation for delivery of quality merchandise.

Annual demand of Altra Video Company is 15,600 packages. Altra Video Company requires 10% annual return on its investment. The purchase order Lead time is 2 weeks. The purchase order is passed through internet and it costs Rs.20 per order. The relevant insurance, material handling etc. is Rs.10 per package per year.

Altra Video has to decide whether or not to shift to JIT purchasing. Yash Tape Company agrees to deliver 100 packages of Video tapes 156 times per year (6 times every 2 weeks) instead of existing delivery system of 1,200 packages 13 times a year, with additional amount of Rs.0.05 per package. Altra Video Company incurs no stock out under its current purchasing policy. It is estimated that Altra Video Company will incur stock out cost on 50 video tape packages under a JIT purchasing policy. In the event of stock out, Altra video company has to rush order tape packages, which costs Rs.8 per package. Comment whether Altra Video Company should implement JIT purchasing system.

Ram Company also supplies video tapes. It agrees to supply at Rs.145 per package under JIT delivery system.

If video tape is purchased from Ram Co. relevant carrying cost would be Rs.9 per package against Rs.10 in case of purchasing from Yash Tape Company. However, Ram Company does not enjoy a sterling reputation for quality.

Altra Video Company anticipates the following negative aspects of purchasing tapes from Ram Company.

1. Incurring additional inspection cost of Rs.0.05 per package.
2. Average stock out of 360 tape packages per year would occur, largely resulting from late deliveries. Ram Company. cannot rush order at short notice. Altra Video Company anticipates lost contribution margin per package of Rs.10 from stock out.
3. Customers would likely return 2% of all packages due to poor quality of the tape and to handle this return, an additional cost of Rs.25 per package would be incurred.

Comment on whether Altra Video Company can place an order with Ram Company.

THROUGHPUT ACCOUNTING

Question 1: A factory has a key resource (bottleneck) of Facility A which is available for 62,600 inutes per week. The time taken per unit of Product X and Y in Facility A are 5 minutes and 10 minutes respectively. Last week's actual output was 9500 units of product X and 1300 units of Product Y. Actual factory cost was Rs.1,56,500. What is the throughput cost for the week?

Question 2: Modern Co produces 3 products, A, B and C, details of which are shown below:

Particulars	A	B	C
Selling price per unit (Rs.)	120	110	130
Direct material cost per unit (Rs.)	60	70	85
Variable overhead (Rs.)	30	20	15
Maximum demand (units)	30,000	25,000	40,000
Time required on the bottleneck resource (hours per unit)	5	4	3

There are 3,20,000 bottleneck hours available each month.

Required:

Calculate the optimum product mix based on the throughput concept.

Question 3: Cat Co makes a product using three machines - X, Y and Z. The product has to pass through all the three machines.

The capacity of each machine is as follows:

	X	Y	Z
Machine capacity per week (in units)	800	600	500

The demand for the product is 1,000 units per week. For every additional unit sold per week, profit increases by Rs.50,000. Cat Co is considering the following possible purchases (they are not mutually exclusive hence combination of multiple Proposals are to be evaluated):

Proposal 1: Replace machine X with a newer model. This will increase capacity to 1,100 units per week and costs Rs.60 Lakhs.

Proposal 2: Invest in a second machine Y, increasing capacity by 550 units per week. The cost of this machine would be Rs.68 Lakhs.

Proposal 3: Upgrade machine Z at a cost of Rs.75 Lakhs, thereby increasing capacity to 1,050 units.

Required: Which is Cat Co' s best course of action under throughput accounting?

Question 4: T Ltd, produces a product which passes through two processes - cutting and finishing. The following information is provided:

	Cutting	Finishing
Hours available per annum	50,000	60,000
Hours needed per unit of product	5	12
Fixed operating costs per annum excluding direct material (Rs.)	10,00,000	10,00,000

The selling price of the product is Rs.1,000 per unit and the only variable cost per unit is direct material, which costs Rs.400 per unit. There is demand for all units produced.

Evaluate each of the following proposals independent of each other:

(i) An outside agency is willing to do the finishing operation of any number of units between 5,000 and 7,000 at Rs.400 per unit.

(ii) Another outside agency is willing to do the cutting operation of 2,000 units at Rs.200 per unit

(iii) Additional equipment for cutting can be bought for Rs.10,00,000 to increase the cutting facility by 50,000 hours, with annual fixed costs increased by Rs.2 lakhs.

Question 5: H Ltd. manufactures three products. The material cost, selling price and bottleneck resource details per unit are as follows:

Particulars	Product X	Product Y	Product Z
Selling Price (Rs.)	66	75	90
Material and other variable cost (Rs.)	24	30	40
Bottleneck resource timeline (minutes)	15	15	20

Budgeted factory costs for the period are Rs.2,21,600. The bottleneck resources time available is 75,120 minutes per period.

Required:

(i) Company adopted throughput accounting and products are ranked according to 'product return per minute. Select the highest rank product.

(ii) Calculate throughput accounting ratio (TA Ratio) and comment on it.

THE END