ACB

Total No. of Questions : 8 **Maximum Marks : 100**
No. of Pages : 5 **Time Allowed: 3 Hour**

All Questions are compulsory
All Workings should form part of the answers.

1. Answer any five of the following

i). A company sells three products X,Y and Z in equal quantities and at the same selling price and the contribution to sales ratio for the product is 40% for X, 50% for Y and the total is 48%. If fixed costs are unaffected by mix and are currently 20% of sales, and if product mix is changed to X -40% Y – 25% and Z – 35% find out the total contribution to total sales %.

ii) A company manufactures P.Q and R from a joint process and allocates joint costs on the basis of relative sales value at split-off. The following data is given

	P	Q	R
Units produced	50,000	40,000	10,000
Sales value at split off –Rs	4,20,000	2,70,000	60,000

Joint costs – Rs.4,50,000
If 10,000 units of R were processed further and sold for Rs.78,000 what was the gross profit on this sale.

iii) Distinguish between cost allocation and cost absorption

iv) ABC Ltd uses a predetermined overhead recovery rate based on machine hours. Budgeted factory overhead for a year amounted Rs.4,20,000 but the actual factory overhead incurred was Rs.4,16,010. During the year , the company absorbed Rs. 4,06,000 of factory overhead on a budgeted machine hours of 60,000. Find out the actual machine hours worked for the year.

v) ABC Ltd uses a non- integrated accounting system and following particulars are given regarding valuation of opening and closing stock of material.

	Financial Accounting	Cost Accounting
Opening stock of material	Rs.5,000	Rs.6,400
Closing stock of material	4,000	5,200
Opening stock of finished goods	9,800	9,600
Closing stock of finished goods	7,900	7,600

Find out the effect of these valuation differences on the profit reported by two ledgers

vi) What are the assumptions made in while calculating Economic Ordering Quantity (EOQ?)

(5x2=10 marks)

2a. The standard cost specification for a product is

Time 5 hours per unit
Cost Rs.5 per hour
Production 1,000 units
Hors taken:
Production 5,200 hours
Idle time 200 hours
Total time 5,400 hours

Payments made, Rs,28,080 (average per hour Rs.5.20)

Compute i) Labour cost variance ii) Labour rate variance
iii) Labour efficiency variance iv) Idle time variance (10 marks)

2b. Write short notes on any two (5 marks)

a) Uniform cost manual
b) Value Analysis
c) Chargeable expenses

3. JP Limited, manufacturers of special product, follows the policy of EOQ (Economic Order Quantity) for one of its components. The component's details are as follows:

	Rs.
Purchase Price per Component	200
Cost of an Order	100
Annual Cost of carrying one Unit in inventory	10 % of Purchase price
Total Cost of Inventory and Ordering per annum	4,000

The company has been offered a discount of 2 % on the price of the component provided the lot size is 2,000 components at a time.

You are required to :

a) Compute the EOQ
b) Advise whether the quantity discount offer can be accepted. (Assume that the inventory carrying cost does not vary according to discount policy)
c) Would your advice differ if the company is offered 5 % discount on a single order?

(16 marks)

4. Answer any three of the following

a. From the following data calculate i) Break even point expressed in sales rupees ii) Number of units to be sold to earn a profit of Rs.60,000 a year

Sales price	Rs.20 per unit
Variable manufacturing cost	Rs.11 per unit
Variable selling cost	Rs. 3 per unit
Fixed factory overhead	Rs.5,40,000 per year
Fixed selling costs	Rs.2,52,000 per year

b. A worker completes in a certain number of hours. The standard time allowed for the job is 10 hours and the hourly rate of wages is Rs.1. The worker earns at 50% rate a bonus of Rs.2 under Halsey plan. Ascertain his total wages under the Rowan premium plan

c. An organization manufacturing motor, which are sold at Rs.400 each. The cost of sales is composed of 40% of direct material, 30% of wages and 30% overhead. An increase in wage rate by 10% and increase in material by 25% will result in reduction in profit by 39% of present gross profit. Find out the cost under present condition

d. A chemical processing company has identified that an abnormal gain of 160 litres occurred in its process. Normal losses are expected and have a scrap value of Rs.2 per litre. All losses are 100% complete as to material cost and 75% complete as to conversion costs. The company uses the weighted method of valuation and the output was valued using the following costs per equivalent unit.

Materials	Rs. 9.40
Conversion costs	Rs.11.20

Find out the effect on the profit and loss account on account of abnormal gain

(3 x 3 =9 marks)

5. Answer any five of the following

i) Distinguish between Net present value and internal rate of return
ii) Write short note on profitability index
iii) Write a note on indifference point
iv) What are the assumptions of the Theory of Cost of capital
v) What are the merits and demerits of Commercial Paper?
vi) Discuss the features of Venture capital financing

(5 x 2=10 marks)

6. The following particulars pertain to a manufacturing company

Income statement for the year ended 31st March 2008

	Rs.	Rs.
Sales revenue		32,00,000
Less: Cost of goods sold		20,00,000
		12,00,000
Add: Govt. compensation		50,000
		12,50,000
Less: Operating expenses	7,90,000	
Int. on debentures	15,000	
Depreciation	2,10,000	
Cost of issue of debentures written off	1,000	10,16,000
Profit before tax		2,34,000
Less: Provision for income tax		92,000
Profit after tax		1,42,000

	Year ended 31st March,2007 Rs.	Year ended 31st March,2008 Rs.
Inventories	1,80,000	2,20,000
Debtors	40,000	38,000
Bills receivables	30,000	55,000
Cash in hand and at bank	1,12,000	2,48,000
Creditors	78,000	95,000
Bills payables	20,000	15,000
Outstanding expenses	31,000	44,000

Additional information on events during the year

i) Fully paid equity shares of the face value of Rs.2,00,000 were allotted at a premium of 20%
ii) 10% debentures for Rs.3,00,000 were redeemed at a premium of 2%
iii) Land was purchased for Rs.1,50,000 and the consideration was discharged by the allotment to the vendor of zero % convertible debentures for the amount
iv) Dividend and corporate dividend tax thereon for the year ended 31st March 2007 amounting to Rs.1,10,000 was paid
v) Income tax paid during the year totaled Rs.95,000

Prepare cash flow statement for the year ended 31st March,2008 (15 marks)

7. Gama Ltd has a present annual sale of 10,000 units @ Rs.300 per unit. The variable cost per unit is Rs.200 per unit and the fixed costs amount to Rs.3,00,000 per annum. The present credit period allowed by the company is 1 month. The company is considering a proposal to increase the credit period to 2 months and 3 months and the estimates are given below

	Existing	Proposed	
Credit policy	1 month	2 months	3 months
Increase in sales		15%	30%
% of bad debts	1%	3%	6%

There will be increase in fixed costs by Rs.60,000 on account of increase in sales beyond 24% of present level.
The company plans a pre-tax return of 18% on investment in receivables

Calculate the most preferable credit policy for the company (16 marks)

8. Answer any three of the following

i) From the following information calculate the % of change in earning per share if sales increased by 5%

Earning before Interest and Tax	Rs. 20,00,000
Profit before tax	Rs. 7,00,000
Fixed costs	Rs. 3,00,000

ii) A company has the following capital structure as on 31.3.2009

		Rs.
Equity capital (1,00,000 shares)	=	50,00,000
15% preference shares	=	15,00,000
12% debentures	=	25,00,000

The equity share of the company sells for Rs.30. It is expected that the company will pay next year a dividend of Rs.3 per equity share which is expected to grow at 5% p.a forever. Assume a 35% corporate tax rate

iii) Calculate the P/E ratio from the following

	Rs.
Equity share capital (Rs.10 each)	50,00,000
Reserves and surplus	5,00,000
Secured loans at 15%	25,00,000
Unsecured loans at 12.5%	10,00,000
Fixed assets	30,00,000
Investments	5,00,000
Operating profit	25,00,000
Income tax rate	35%
Market price / share	52

iv. An investment project costs Rs.1,00,000 initially. It is expected to generate cash flows as follows

Year	Rs.
1	50,000
2	40,000
3	20,000
4	20,000

What is the Net present value of the project assuming a 10% risk free rate. Should the project be accepted?

The present value of Rs.1 at 10% discount rate

Year	1	2	3	4
PV	0.9091	0.8264	0.7513	0.6830

(3 x 3 =9 marks)

AEC ACADEMY
28th SESSION MODEL EXAM
COST ACCOUNTING & FINANCIAL MANAGEMENT
SUGGESSTED ANSWERS

1.

i).

	X	Y	Z	Total
P/V Ratio	0.4	0.5	0.54*	0.48
Present mix	0.33	0.33	0.33	1.00
	Revised mix			
a.P/V Ratio	0.4	0.5	0.54	
b.Present mix	0.40	0.25	0.3	
Total (a x b)	0.16	0.125	0.189	0.474

Total contribution to sales % - 47.4%
* 0.48x 3 – (0.4+0.5) =1.44- 0.9 = 0.54

ii) Joint costs = Rs.4,50,000
Share of joint costs allocated to R = (60,000/7,50,000) x 4,50,000
= Rs.36,000
Further processing costs = Rs.10,000
Total cost = Rs.46,000
Sale value = Rs.78,000
Gross profit = 78,000 – 46,000 = Rs.32,000

iii)
Cost Allocation: It represents allotment of overheads to various cost centres departments or cost units. It is also known as departmentalization or primary distribution of overhead.

Absorption: It is defined as the absorption of the overhead expenses of the cost centres to the cost units on an equitable basis. Absorption or recovery of overhead expenses takes place after allocation and apportionment of the overhead expenses incurred.

Cost allocation is distribution of overhead collected under various heads to various cost centres where as Cost absorption is recovery of overheads distributed to cost centres in production units.

iv) Pre determined over head rate / hr = Budgeted O.H / Budgeted hours
= 4,20,000/60,000 = Rs.7

Actual Overhead absorbed = Actual hours × pre determined OH rate/hr
4,06,000 = Actual hours × 7

Actual hours = 4,06,000/7 = 58,000 hours

v) Opening stock – Fin.Account	Rs.5,000+9,800	=	Rs.14,800
Cost account	Rs.6,400+9,600	=	Rs.16,000

Financial P & L A/c was less debited and therefore
Financial account profit is more by = Rs. 1,200

Closing stock – Fin.account	Rs.4,000+7,900	=	Rs.11,900
Cost account	Rs.5,200 +7600	=	Rs.12,800

Financial P & L A/c is less credited and therefore financial profit is less by Rs.900. Overall taking into both opening and closing stock valuation financial accounting profit is more by (Rs.1,200-900) = Rs.300

vi.

- It is assumed that carrying costs are based on the average inventory which decreases at a constant rate from the order quantity to zero.
- The annual anticipated usage is known and is assumed to be constant
- The ordering cost per order remains constant and it varies directly with increase in orders.
- The cost per unit to be purchased is known in advance and is assumed to be constant throughout the year.
- The replenishment is made instantaneously

2a.

Labour cost variance :
(std.hours for actual prodn x std.rate) – (Actual hours x actual rate)
= (5000 x5 – 5400x5.2)
= 25,000 – 28,080 = Rs.3,080 (Adverse)

Labour rate variance = (Standard rate – Actual rate) x actual hours
= (5 – 5.20) x 5,400 = Rs.1,080 (Adverse)

Labour efficiency variance = (Standard hours – Actual hours) x standard rate
= (5,000 – 5,400) x Rs.5
= Rs.2,000 (adverse)

Idle time variance = Standrad rate x idle time hours
= Rs.5 x 200 = Rs.1,000 (Advese)

2b.

a) Uniform cost manual

- -The uniform cost manual serves as a formal evidence of the uniform system agreed upon and is of immense help in guiding the participating firms to arrange their systems of accounting so that the uniform principles are correctly applied.
- The manual describe the scheme and the method of its administration and the procedure to be followed for regular collection, analysis and reporting of cost data, and their interpretations to the member units.
- The size, form, and contents of a cost manual vary depending mainly upon the type and extent of the uniform plan and the method of presentation of the figures

Uniform costing manual contains the following main headings
- Introduction
- Organisation
- Accounting system
- Cost Accounting system
- Presentation of information
- Miscellaneous

b) Value Analysis :

- It is defined as a systematic analysis and evaluation of the techniques and functions in the various spheres of an organization with a view to exploring channels of performance improvement so that the value in a particular product can be bettered.
- It is a specialized services offered as a tool of management
- Value analysis aims at cost reduction from the point of view of value.
- Value analysis probes into economic attributes of value

The steps involved in value analysis are

(i) Identification and definition of the problem
(ii) Collecting information
(iii) Exploring and evaluating alternatives
(iv) Development and planning
(v) Recommendation of the final proposal for implementation

The reduction in the costs of a product and thus increasing the profitability of a concern is the main advantage of value analysis.

c) Chargeable expenses: These are direct expenses charged directly to jobs, services, cost centres and cost units. Depending on the situation a particular expense may be a chargeable direct expense or an indirect cost. If an expense attributable to a machine where the machine is used for a particular product is a chargeable expense whereas if the machine is used for several products it may be apportioned on a suitable basis.

3. a).

Purchase price	= C = Rs.200/-
Cost of placing an order	= P = Rs.100/-
Inventory carrying cost	= i = 10 %
EOQ	= q
Total Cost of ordering	= PU/q where U = annual demand
Total Cost of carrying	= Ciq/2

Given total cost of carrying and ordering = Rs.4,000

Given $PU/q + Ciq/2 = 4{,}000$

$100U/q + 200 \times 0.1 \times q/2 = 4{,}000$

$100U/q + 10q = 4{,}000$

$10U/q + q = 400$

$10U + q^2 = 400\,q$ -------(1)

At EOQ total cost of ordering = total cost of carrying

$100U/q = 10q$

$10\,q^2 = 100\,U$

$q^2 = 10\,U$

$q = \sqrt{10U}$ ------ (2)

Substituting equation (2) in equation (1) $10U + 10U = 400 \times \sqrt{10U}$

$20U = 400 \times \sqrt{10U}$

squaring on both sides $400\,U^2 = 160000 \times 10U$

$U = 160000 \times 10/400 = 4{,}000$ units

EOQ $q = \sqrt{10U} = \sqrt{10 \times 4000} = \sqrt{40{,}000} = 200$ units

b) when the discount offered is 2 % when there is a lot size of 2000 units

Number of orders = Annual demand/ quantity per order

= 4000/2000 = 2 orders

Cost of placing orders = 2 × 100 = Rs.200/-

Inventory carrying cost = Avg.inventory × carrying cost per unit

=1/2 × 2000 ×Rs. 20 = 20,000

Note : In question it is advised to assume that the inventory carrying cost does not vary according to discount policy the original carrying cost of Rs.200×0.1= Rs.20 per unit is considered even when there is a discount of 2 %

Cost of ordering and cost of carrying	= 200+20,000 = Rs.20,200/-
Cost of ordering and cost of carrying at EOQ	= Rs.4,000
Extra cost	= Rs.20,200-Rs.4,000 = Rs.16,200
Quantity Discount received	=2 % × 200 × 4000 units = Rs.16,000/-

c) When the discount offered is 5 % when there is a single lot size of 4000 units

Number of orders	= Annual demand/ quantity per order
	= 4000/4000 = 1 order
Cost of placing orders	= 1 × 100 = Rs.100/-
Inventory carrying cost	= Avg.inventory × carrying cost per unit
	=1/2 × 4000 ×Rs. 20 = 40,000

Note : In question it is advised to assume that the inventory carrying cost does not vary according to discount policy the original carrying cost of Rs.200×0.1= Rs.20 per unit is considered even when there is a discount of 5 %

Cost of ordering and cost of carrying	= 100+40,000 = Rs.40,100/-
Cost of ordering and cost of carrying at EOQ	= Rs.4,000
Extra cost	= Rs.40,100-Rs.4,000 = Rs.36,100
Quantity Discount received	= 5 % × 200 × 4000 units = Rs.40,000/-

4. a.Contribution per unit = Sales per unit – Variable cost per unit
= 20 - 14 = Rs.6 per unit

Break even point (volume) = Fixed cost / Contribution per unit
= 7,92,000 / 6 = 1,32,000 units

Breakeven point in sales rupees = 1,32,000 x 20 = Rs.26,40,000

No.of units to be sold to earn profit of Rs.60,000=
Fixed cost + Rs.60,000/Contribution per unit
= 7,92,000 + 60,000 / 6 = 8,52,000/6
= 1,42,000 units

b.If the bonus received were Rs.2 at 50% rate, the total amount of bonus should be Rs.4. The rate per hour being Rs.1, the time saved should be 4 hours. Hence the time taken will be 6 hours

Wages under Rowan Premium plan
= (Time taken x Hourly rate) + (Time taken/Time allowed) x Time saved x hourly rate
= 6 x Rs.1 + 6/10 x 4 x Rs.1
= Rs.6 + 2.40 = Rs.8.40

c

	Present	After increase
Let the cost of sales	= x	
Direct material	= 0.40 x	= 0.50 x
Wages	= 0.30 x	= 0.33 x
Overhead	= 0.30 x	= 0.30 x
Total		**= 1.13** x

Present gross profit = Rs.400 - x
Future gross profit = 400 - 1.13 x

Present profit – Future profit = 39% of present profit
$(400 - x) - (400 - 1.13x) = 0.39 \times (400 - x)$
$0.13x = 156 - 0.39x$
$0.52x = 156$
$x = \text{Rs.}300$
Cost under present condition = Rs.300

d.
Equivalent units : Material 160 units x 100% = 160 units
Conversion costs 160 units x 75% = 120 units
The abnormal gain reduces the expected loss
Reduction in scrap value realized (160 x Rs.2) = (Rs.320)
Reduction in losses made

Material	160 x 9.40	= Rs.1,504
Conversion	120 x 11.20	= Rs.1,344
Net benefit in P & l Account		= Rs.2,528

5.

i) NPV and IRR methods differ in the sense that the results regarding the choice of an asset under certain circumstances are mutually contradictory under two methods. In a situation where projects are mutually exclusive investment projects, they may give contradictory results in certain situations. The different results could be due to size disparity problem, time disparity problem and unequal expected lives. Net present value is expressed in financial values whereas internal rate of return is expressed in percentage terms. In net present value cash flows are assumed to be reinvested at cost of capital rate in internal rate of return investment is assumed to be made at IRR rates.

ii)
The profitability index or cost benefit ratio of a project is the present value of future cash flows over the present value of cash outlay. It is used in the net present value approach to compare the profitability of various capital investment projects. The higher is the profitability index, the greater will be the return. Any project with profitability index above 1 is acceptable since the cash flow exceeds cash outlay. Projects with profitability index less than 1 are not acceptable.

$$\text{Profitability Index} = \frac{\text{Present value of cash flows}}{\text{Present value of cash outlay}}$$

Profitability index may be used to compare projects with different cash flows and rank the projects according to profitability index.

iii) The capital structure of a firm consist of an optimum mix of equity and debt. In attempting an optimum mix, one should compare cost of capital with the expected return from the investment. So long as the cost of financing by debt is less than the rate of return from the investment, add the difference to the earnings per share. In such a case debt finance is more profitable. The indifference point in planning the capital structure is that point at which the after tax cost of acquisition of outside funds is equal to the rate of return from the investment. This point refers to that EBIT level at which EPS remains the same irrespective of debt equity mix. In other words, at this point rate of return on capital employed is equal to the rate of interest on debt

iv.

(i) The theory of cost of capital is based on certain assumptions, which are given below:

(1) That there would be no change whatsoever in the business risks of a company as a result of acceptance of new investments proposals.
(2) That the company's financial structure will remain unchanged. It means that the additional funds required to finance the new project are to be raised in the same proportion as the company's existing financial pattern
(3) Cost of capital for each source will be determined on an after tax basis.

v.

Merits :

(1) It is an alternative source of raising short term finance during period of tight bank credit.
(2) It is relatively cheaper source of finance in comparison to bank credit. Usually, Interest yield on commercial paper is less than the Prime interest rate.

Demerits :

(1) It is an impersonal method of financing. If for any reason, a firm is unable to redeem its paper due to financial difficulties, it may not be possible for it to get the maturity of paper extended
(2) It is normally used by financially sound and highest rated companies. A firm having temporary financial difficulties may not be able to raise funds through commercial paper.
(3) It cannot be redeemed till maturity. Secondary market is doubtful for C.P
(4) Absence of renewal facilities means that the C.P are to be issued afresh and the borrower incurs the issue cost every time.
(5) In India the companies are reluctant to disclose the financial information and therefore only a few companies would like to get with the C.P market, as their account will be scrutinized by credit rating agencies.

vi. Under venture capital financing, venture capitalists make investment to purchase equity or debt securities from inexperienced entrepreneurs who undertake highly risky ventures with potential of success.
Equity participation .They make investment in equity by direct purchase with the objective of making capital gains by selling off the investment once the project becomes profitable.
Long term investment: Venture capital is a long term investment. It is not repayable on demand. It requires long term investment attitude that necessitates the venture capital firms to wait for a long period to make large profits.
Participation in management: This participation helps the venture capitalists to protect and enhance his investment by actively involving and supporting the entrepreneurs.
Concessions are given by the government to venture capitalists to encourage them in helping entrepreneurs.

6. Cash Flow Statement for the year ended 31st March,2008

Cash Flows from operating Activities	Rs.	Rs.
Net profit before tax and extraordinary item	1,84,000	
Adjustments for :		
Interest on debentures	15,000	
Depreciation on fixed assets	2,10,000	
Cost of issue of debentures amortised	1,000	
Operating profit before working capital changes	4,10,000	
Adjustments for :		
Increase in inventories	(40,000)	
Decrease in debtors	2,000	
Increase in bills receivable	(25,000)	
Increase in creditors	17,000	
Decrease in bills payable	(5,000)	
Increase in outstanding expenses	13,000	
Cash generated from operations	3,72,000	
Income tax paid	(95,000)	
	2,77,000	
Cash flow form extraordinary item		
Compensation from Govt.	50,000	3,27,000
Cash Flow from Financing activities		
Issue of equity share capital at a premium	2,40,000	
Redemption of 10% debentures at a premium	(3,06,000)	
Debenture interest paid	(15,000)	
Dividend and corporate dividend tax thereon paid	(1,10,000)	
Net cash used in financing activities		(1,91,000)
Net increase in cash and cash equivalents		1,36,000
Cash and cash equivalents in the beginning		1,12,000
Cash and cash equivalents at the end		2,48,000

7. a.

	Present policy	Proposed policy	
Credit period	1month	2 months	3 months
Sales (Units)	10,000	11,500	13,000
	Rs.	Rs.	Rs.
Sales income	30,00,000	34,50,000	39,00,000
Variable cost @ Rs.200 per unit	20,00,000	23,00,000	26,00,000
Contribution	10,00,000	11,50,000	13,00,000
Fixed costs	3,00,000	3,00,000	3,60,000
Net margin	7,00,000	8,50,000	9,40,000
Investment in receivables	1,91,666	4,33,000	7,40,000

$\frac{\text{Cost X No. of months credit}}{12}$

$\frac{23,00,000 \text{ x } 1}{12} = 1,91,666$

$\frac{26,00,000 \text{ x } 2}{12} = 4,33,333$

$\frac{29,60,000 \text{ x } 3}{12} = 7,40,000$

Return on receivables @ 18%	34,500	77,940	1,33,200
Bad debts	30,000	1,03,500	2,34,000
Net profit	6,35,500	6,68,560	5,72,800

As 2 months credit policy gives maximum profit, this policy is preferable

8.

i). Degree of operating leverage = Contribution/EBIT

= 20,00,000+3,00,000/20,00,000

= 1.15

Degree of financial leverage = EBIT/PBT = 20,00,000/7,00,000

= 2.86

Degree of ope.leveragex Deg of fin.leverage = $\frac{\text{\% change in EPS}}{\text{\% change in ales}}$

1.15x2.86 = % change in EPS/5

% change in EPS = 5x1.15x2.86 = 16.445%

ii)

Cost of equity capital Ke = Dividend/current market price + g

= 3 /30 + 5% = 15% or 0.15

Cost of preference share capital = $\frac{\text{Annual preference share dividend}}{\text{Net proceeds of pref.share issue}}$

= Rs.2,25,000/Rs.15,00,000

= 15% or 0.15

Cost of debentures = $\frac{\text{Interest on debentures – tax}}{\text{Net proceeds in debentures}}$

= 3,00,000 – 1,05,000/25,00,000

= 0.078

Equity capital	55.55%	x 0.15 =	0.0833
Preference share	16.67%	x 0.15 =	0.0250
Debentures	27.78%	x 0.078 =	0.0217
			0.1300

Weighted average cost of capital = 13%

iii)	Rs.	Rs.
Operating profit		25,00,000
Less: Interest		
15% on secured loans	3,75,000	
12.5% on unsecured loan	1,25,000	5,00,000
Profit before tax		20,00,000
Less: Income tax @35%		7,00,000
Profit after tax	13,00,000	
Number of equity shares	5,00,000	

Earning per share = 13,00,000 / 5,00,000 = Rs.2.6

P/E ratio = Market price per share / EPS

= 52/2.6 = 20

iv.

Year	Cash in flows	Present value
0	(Rs.1,00,000)	Rs.(1,00,000)
1	50,000	45,455
2	40,000	33,056
3	20,000	15,026
4	20,000	13,660
		7197

The project should be accepted at risk free rate of 10% because net present value is positive

BIC

Total No. of Questions: 8 **Maximum Marks: 100**

No. of Pages : 4 **Time Allowed: 3 Hours**

All Questions are compulsory

All Workings should form part of the answers.

15 Marks

1) R, a British citizen resident in India is the manager of G Ltd., at Mumbai. During the year ended 31-03-2009 his monthly emoluments are – Basic salary Rs.12, 000; Dearness allowance - 50% of basic salary; Marriage allowance –Rs.5, 000; Children allowance – Rs.5, 000 and Entertainment allowance – Rs.1,200 since 1-4-2008. He contributed Rs.2000 per month to a recognized provident fund. His employer also contributed equal amount. During the year Rs.50, 000 was credited to provident fund account being interest @ 9.5% per annum.

R gets a house rent allowance of Rs.4, 000 per month but pays rent @ Rs.6, 000 per month

In appreciation of his good work, company presented to R on 1-4-2008 a refrigerator and a TV costing Rs.30, 000. He is the owner of a car, which is also used for official purpose. The company meets the whole annual maintenance cost of Rs.18, 000, though the car was used for personal purpose half the time. R won during the year, Rs.5, 500 from bridge games at the club and Rs.10, 000 from State Lottery. The company also paid premium on life insurance policy of R of Rs.3, 000.

In January 2009 R visited UK to explore the possibilities of exporting company's product and the company met the passage and hotel charges of R amounting to Rs.20, 000 and Rs.18, 000 respectively. R received dividend of Rs.2, 000 from UK companies which was credited to his account in London and interest of Rs.500 was also credited by the bank to the said account.

R paid during the year the following life insurance premium:-

(a)	On own life	Policy value Rs. 1,00,000	Premium Rs.12,000
(b)	On his wife's life	Policy value Rs. 50,000	Premium Rs.4,000
(c)	On his minor son's life	Policy value Rs. 20,000	Premium Rs.1,000

R also paid education expenses of his son in London of Rs.10, 000

Compute his total income for the assessment year 2009-10

2) X, who is a person with disability, submits the following information 10 Marks

		(Rs.)
(i)	Salary (per annum)	2,10,000
(ii)	Rent received (per month)	2,000
(iii)	Dividend from a co-operative society	3,000
(iv)	Interest on Bank deposits	7,000
(v)	Interest on Government securities	5,000
(vi)	Winnings from lotteries	2,000
(vii)	NSC (VIII Issue) purchased during the year	15,000
(viii)	Deposit under PPF Scheme	35,000

He earned a long-term capital gain of Rs.8, 000 on sale of shares during the year. Compute (a) the taxable income (b) the tax payable for the assessment year 2009-10

10 Marks

3) R has computed his income under various heads for the previous year 2008-09 as under:

			(Rs.)
(a)	Income under the head salary		1,10,000
(b)	Income under the head house property		(-)15,000
(c)	Profits and Gains of business or profession		90,000
(d)	Capital Gain - Short term	30,000	
	- Long term	90,000	1,20,000
(e)	Income from other sources		
	- Winning of lotteries (gross)	15,000	
	- Interest on Government securities	20,000	35,000

A also submits the following information:

(1)	Payment made by cheque for Mediclaim Policy	5,000
(2)	Expenses on Medical treatment of dependant son with severe disability	25,000
(3)	Re-payment on loan, with interest to Canara Bank, which was taken for pursuing approved higher education (Principal amount- Rs.25,000+10,000 Interest)	35,000
(4)	**Donations to:-**	
	Prime Minister's Drought relief fund	3,000
	National Fund for Communal Harmony	4,000
	Jawaharlal Nehru Memorial Fund	4,000

Prime Minister's National Relief Fund	4,200
Government for Family Planning	11,000
Approved Charitable Institution	7,000

Compute the tax liability for the assessment year 2009-10, if he deposits Rs.60, 000 in his Public Provident Fund Account during the previous year

4) Ramu submits you the following particulars

Particulars	**Date of acquisition**	**Cost Rs.**	**Market value as on 1.4.1981**	**Date of sale**	**Sale Price Rs.**
Urban Agricultural land	05-06-1979	90,000	1,80,000	16-08-2008	19,00,000
Rural Agricultural land	05-05-1982	1,80,00 0	1,26,000	17-10-2008	21,60,000
Shares	06-08-2007	1,08,00 0	36,000	05-07-2008	1,44,000
Gold	07-09-1982	90,000	81,000	06-03-2009	6,25,000
Residential house property	09-07-1964	54,000	10,80,000	01-03-2009	62,60,000

10 Marks

He deposited a sum of Rs.7, 20,000 on 25-06-2009 in the capital gain scheme as he intends to buy an agricultural land later. Out of the sale proceeds of gold, he has invested Rs.2, 88,000 on the purchase of residential house property on 15-05-2009.Compute taxable gain for the assessment year 2009-10.

5x2=10 Marks

5) The following issues arise in connection with the deduction of tax at source under Chapter XVII-B. Discuss the liability for tax deduction in these cases:

1. R, an employee of the Central Government receives arrears of salary for the earlier three years. He enquires whether he is liable for deduction of tax on the entire amount during the current year.

2. A TV channel pays Rs. 11, 00,000 on1-7-2008 as prize money to the winner of a quiz, programme,"who will be a Millionaire"?
3. State Bank of India pays Rs. 50,000 per month as rent to the central Government for a building in which one of its branches is situated.
4. A television company pays Rs. 50,000 to a cameraman for shooting of a documentary film.
5. A turf club awards a jackpot of Rs. 5 lakhs to the winner of one of its races.

13 Marks

6) Retwik has prepared the following Profit and Loss account for the year ended 31-03-2009. You are required to ascertain his gross total income for the year ended on the date:

	(Rs.)		
Salaries	60,000	Gross Profit	1,50,000
Rent	26,400	Rent from House property	36,000
Loss by theft	20,000		
Discount	10,000		
Charity	500		
Banking cash transaction tax	6,000		
Reserve for bad debts	10,000		
Gifts and presents	500		
Life insurance premium	1,000		
Interest on loan	12,000		
Interest on capital	3,000		
Repairs to house	500		
Income tax	2,000		
Net profit	34,100		
	1,86,000		1,86,000

7) Answer the following 4x3=12 Marks

(a) Explain the deduction available to the hospitals u/s. 80 IB (11C)

(b) Describe briefly the provisions related to expenditure met otherwise than by A/c payee cheque or Account Payee draft as per Sec. 40 A (3)

(c) Describe the tax holiday available to Hotels u/s 80 ID.

(d) Which of the persons covered by Sec.194 C for deduction of tax at source?

8). answer all the following questions:
6 Marks

a) Ajay Ltd. has agreed to render services to Mr. Guru. The following are the chronological events:

Contract for services entered into on 31-8-2008	Rs.
Advance received in September, 2008 towards all services	60,000
Total value of services, billed in February, 2009	2, 10,000
Above includes non-taxable services of Balance amount is received in March,2009	70,000

When does the liable to pay services tax arise and for what amount? Contract contains clear details of services; consideration and service tax are charged separately, as mutually agreed upon.

b) Write a detailed note on registration procedure under VAT. 7 Marks

c) What is taxable service and mention any ten taxable services. 7 Marks

AEC ACADEMY
28th SESSION MODEL EXAM
INCOME TAX, VAT AND SERVICE TAX
SUGGESTED ANSWERS

1. Computation of total income of R for the assessment year 2009-10

	Rs.	Rs.	Rs.
(a) Income from salary			
Salary @ Rs.12,000 p.m			1,44,000
D.A. 50% of salary			72,000
Marriage allowance @ Rs.5,000 p.m			60,000
Children allowance @ Rs.5,000 p.m			60,000
Entertainment allowance			14,400
Employees con. To PF in excess of 12% of salary (24,000- 17,280)			6,720
House rent allowance			
HRA received		48,000	
Less: Exempt u/s 10(13A)			
1. Actual HRA	48,000		
2. Excess of rent paid over 10% of salary(72,000-14,400)	57,600		
3. 50% of salary	72,000		
Least of (1) to (3) above		48,000	Nil
Value of presentation in appreciation of work (the employer shall be liable to pay FBT on the same)			Nil
Maintenance cost of car borne by the employer (the employer shall be liable to pay FBT on the same)			Nil
LIC premium paid by the co. on the life of R (taxable u/s 17(2)(v) 3,000)			3000
			3,60,120
(b) Income from Other sources			
(i) Winning from Bridge game		5,500	
(ii) Winning from State Lottery		10,000	
(iii) Dividend from U.K. company		2,000	
(iv) Interest in bank A/c in UK		500	18,000

	Rs	Rs
Gross total income		3,78,120
Less: Deduction u/s 80 C (see note below)		44,000
		3,34,120
Note:- Amount entitled to deduction u/s 80 C		
(i) Contribution to PF	24,000	
(ii) Life insurance premium paid by R	17,000	
(iii) Life insurance paid by Co. on the life of R	3,000	
(iv) Education expenses of son (payment is not made to a educational institute in India)	Notallowed	44,000

2 Computation of total Income

	Rs.	Rs.
Income from salary		
Basic Salary	2,10,000	
Less: Deduction	Nil	2,10,000
Income from house property		
Rent received	24,000	
Less: Standard deduction @ 30%	7,200	16,800
Capital Gain;		
Long-term capital gain		8,000
Income from other sources		
Dividend from co-operative society	3,000	
Interest on bank deposits	7,000	
Interest on Government Securities	5,000	
Winnings from lotteries	2,000	17,000
Gross Total Income		2,51,800
Less: Deductions u/s 80CCCto 80U		
(i) 80C	50,000	
(ii) 80U	50,000	1,00,000
Total Income		1,51,800

Computation of tax on Total Income

Tax on Winning from lotteries	Rs
(30% of Rs. 2,000)	600
Tax on long term capital gains Rs. 8,000-8,000	
Shifted to other income	Nil
Tax on Balance Total Income	
RS.1,41,800+8,00 shifted	
From long-term capital gain	Nil
Gross tax payable	600
Add: Education cess @ 2%	12
Add: SHEC @ 1%	6
Tax payable	618
Tax rounded off	620

Income from winning of lotteries cannot be shifted to other income to claim full exemption of Rs. 1, 50,000.

3

	Rs.	Rs.
Income from salary		1,10,000
Loss from house property		(-) 15,000
Business income		90,000
Capital gain short-term	30,000	
Long-term	90,000	120,000
Income from other sources (15,000+20,000)		35,000
Gross total income		3,40,000
Less: Deduction u/ss. 80C TO 80U		
(i) U/s. 80C(PPF)	60,000	
(ii) U/s. 80D	5,000	
(iii) U/s. 80DD	75,000	
(iv) U/s. 80E	10,000	
(v) U/s. 80G	22,950	1,72,950
Total income		1,67,050
Tax on Rs. 1,67,050 shall be calculated as under:		
At special rate		
a) On lottery income of Rs. 15,000 @ 30%		4500
b) On long-term capital gain (Rs.75,000-72,950)		
Rs. 2,050 @ 20%		410

Other income without long-term capital gain and lotteries Rs. 77,050+72,950 (shifted from LTCG)		Rs
		4,910
Add: Education cess @ 2%		98
Add: SHEC @ 1%		49
		5,057
Total tax payable		
Tax rounded off		5060

Adjusted Gross Total Income is computed as under:

	Rs.	
Gross Total Income		3,40,000
Less: (1) Long-term capital gain (90,000-lossof house property Rs. 15,000)	75,000	
(2) Deductions u/s 80C to 80U	1,50,000	2,25,000
(60,000+5,000+75,000+10,000)		
		1,15,000

Donation to which qualifying limit is not applicable:

a) Allowed @ 100%	Rs	
National Fund for communal harmony	4,000	
Prime Minister's Drought Relief Fund	4,200	8,200
b) Allowed @ 50%		
Prime Minister's Drought Relief Fund(3000)	1,500	
Jawaharlal Nehru Memorial Fund (4,000)	2,000	3,500

Donations to which qualifying limit is applicable:

	Rs
Government for family planning	11,000
Approved charitable institutions	7,000
	18,000
Limited to 10% of Adjusted Gross Total Income	

i.e., Rs. 1, 15,000 and it shall be Rs.11,500.		
	11,000	
Donations to Family Planning 100%		
Other donations 50% of Rs.500	250	11,250
Total deduction for donations u/s 80G		22,750

Loss of house property has been set off against long-term capital gain as, in this case, "adjusted gross total income" shall be higher and the assessee will be eligible for higher deduction under section 80G for donation for family planning and other charitable institutions, which is limited to 10% of adjusted gross total income.

4

	Urban agricultural land Rs.	Rural agricultural land Rs.	Shares Rs	Gold Rs	House property Rs.
Full value of consideration	19,00,000	21,60,000	1,44,000	6,25,000	62,60,000
Less :indexed cost of acquisition or cost of acquisition	10,47,600	N.A	1,08,000	4,80,550	6,28,56,000
Long term capital gain/	8,52,400	Nil	-	1,44,450	(25,600)
Short-term capital gain	-	-	36,000	-	-
Less: Capital gain exempt					
U/s 54B	7,20,000	-	-	-	-
u/s 54F	-	-	-	66,563	-
Taxable LTCG/STCG	1,32,400	N.A	-	77,887	(25,600)
Short-term capital gain	-	-	36,000	-	-

Long-term capital gain Rs. 1, 84,687

Short-term capital gain Rs.36, 000

(1) Indexed cost of urban agricultural land 10,80,000*582/100=Rs. 10,47,600

(2) Indexed cost of Gold 90,000*582/109=Rs. 4, 80,550.

(3) Indexed cost of House property 10,80,000*582/100=Rs. 62,85,600.

The exemption under section 54F has been calculated as under:
(Rs. 1,44.450*288000/625000=Rs. 66,563)

5(1)

Arrears of salary are taxable in the previous year in which there are paid and thus shall be liable for deduction of tax at source. However, if an employee receives any salary in arrears, he can relief as per section 89 read with rule 21A provided the employee furnishes the details of such arrears in Form No.10E to the employer. Further, relief under section 89 shall be given to the concerned employee while deducting tax at source under section 192.

5(2)

As per section 194B, the TV channel is required at the time of payment of Rs.11,00,000, to deduct income-tax thereon at the rate of 30% + surcharge @ 10% + education cess @ 2% plus SHEC @ 1%.

5(3)

As per section 196 where the payee is the Government, there is no requirement to deduct income-tax at source on income by way of 'rent' and therefore State Bank of India is not liable to deduct tax while paying rent to the Central Government.

5(4)

As per section 194J, the television company shall deduct tax at source at the time of making payment to the cameraman at the rate of 10% + education cess @ 2% +SHEC@ 1%.

5(5)

As per section 194BB, the payer shall deduct income-tax at source at the rate of 30% + education cess @ 2% +SHEC @1% on tax at the time of making payment of any income by way of winning from horse races.

6

	Rs.	Rs.	Rs.
Income from House Property		36,000	
Rent received		10,800	25,200
Less: Standard deduction @ 30%		34,100	
	Rs	Rs	Rs
Profit as per Profit and Loss A/c			
Add: Inadmissible expenses			
(i) Charity	500		
(ii) Reserve for Bad debts	10,000		
(iii) Gifts	500		
(iv) L.I.P	1,000		
(v) Interest on capital	3,000		
(vi) Repairs to house	500		
(vii) Income tax	2,000	17,500	
		51,600	
Less: Rent from House property, taxable under Income from House property		36,000	
Net income from Business			15,600
Gross Total Income			40,800

7(a) Deduction available to hospitals u/s 80 IB (11C)

- From 1.4.08 , 100% of the profit or gains for Initial 5 assessment years is allowed as deduction
- Hospital should be constructed at any time between 1.4.2008-31.03.2013
- The hospital should have at least 100 beds
- The construction of the hospital should be in accordance with the regulations for the time being in force of the local authority
- The assessee should furnish a copy the return of income along with a report certified by a Chartered Accountant

7(b)

Provisions related to expenditure met otherwise than by A/c payee cheque or Account Payee draft as per Sec. 40 A (3)

Expenditure met otherwise than by A/c payee cheque /draft is fully disallowed, (previously 20% of such expenditure was disallowed)

7(c) Tax holiday available to Hotels u/s 80 ID.

Sub.sec	Location and Period	Quantum of deduction and period
2(i)	1.4.2007 to 31.03.2010 in the case of Hotel (2,3,4 star)	100% of the profits or gains for the Initial 5 consecutive assessment years
2(ii)	1.4.2007 to 31.03.2010 build own and operate convention centre	100% of the profits or gains for the Initial 5 consecutive assessment years
2(iii)	1.4.2008 to 31.03.2013 in the case of Hotel (2,3,4 star)	100% of the profits or gains for the Initial 5 consecutive assessment years

7(d) Persons covered by Sec.194 C for deduction of tax at source

Any person responsible for paying any sum to any resident contractor for carrying out any work (including supply of lab our for carrying out any work) in pursuance of a c ontract

W,e.f 1.6.2008 , an AOP /BOI shall be liable to deduct tax at source u/s 194C. whose total sales, gross receipts or turn over from the business or profession carried on by it exceed the monetary limits specified under the clause (a), or clause (b) of section 44AB during the financial year immediately preceding the financial year in which the income is to be credited or paid to the account or resident contractor, will be liable to deduct tax under this section

Person liable for tax: Contractor, sub-contractor, advertising contractor, broadcasting/telecasting contractor, transport contractor, other works contractor

8(a) As the taxable service includes the services to be provided, the liability to pay service tax arises both at the time of receipt of advance in September, 2008 and at the time of receipt of balance consideration in March 2009. However, the liability to pay service tax arises only upon the receipt of the value of taxable services and not when the bill is raised.

Advance Premium	*Rs.*
Advance received towards all services in September 2008	60,000
Amount billed for taxable services (2,10,000 – 70,0000)	1,40,000
Proportionate advance received towards taxable services (60,000*1,40,000/2,10,000)	40,000
Service tax @ 12% (since, service tax is charged separately) on Rs.40,000	4,800
Add: Education cess @ 2%	96
Add: SHEC @ 1%	48
Total Service tax liability	4,944

The due date for payment of service tax in the above case will be 05-10-2008

Balance Portion:

	Rs
Total Amount billed	2,10,000
Less: Amount for non-taxable services	70,000
	1,40,000
Less: Amount already received on which service tax has been paid	40,000
Balance Amount	1,00,000
Service tax @ 12% on 1,00,000	12,000
Add: Education cess @ 2%	240
Add: SHEC @ 1%	120
Total service tax liability	12,360

8(b)

Registered for VAT purposes means entered into an official VAT payers register of a country. Both natural persons and legal entities can be VAT registered. Countries that use VAT have established different thresholds for remuneration derived by natural persons/legal entities during a calendar year (or a different period) by exceeding which the VAT registration is compulsory. Natural persons/legal entities that are VAT registered are obliged to calculate VAT on certain goods/services that they supply and pay VAT into particular state budget. VAT registered persons/entities are entitled to VAT deduction under legislator regulations of particular country. The introduction of a VAT can reduce the cash economy because businesses that wish to buy and sell with other VAT registered businesses must themselves be VAT registered.

8(c)

section 65(105) of the Finance Act, 1994 defines about the taxable service. It says “where any service provided or to be provided by a person, who has established a business or has a fixed establishment from which the service is provided or to be provided, or has his permanent address or usual place of residence, in a country other than India and such service is received or to be received by a person who has his place of business, fixed establishment, permanent address or, as the case may be, usual place of residence, in India such service shall be deemed to be taxable service for the purposes of this clause”

Examples of Taxable services, any 10 from the below

Mining	Storage and warehousing	Transport by Cruise Ship	Video-tape Production	Registrar to an issue
Market Research Agency	Stock-Broker	Tour operator	Underwriter	Recovery Agent
Manpower Recruitment and Supply Agency	Stock Exchange Service	Telecommunication Service	Travel Agent - Other	Real Estate Agent
Mandap Keeper	Steamer Agent	Technical testing and analysis	Transport of passenger embarking in India for international journey by air	Rail Travel Agent
Management, maintenance or repair	Sponsorship	Technical inspection and certification	Transport of goods other than water through pipeline or other conduit	Public Relation
Management or Business consultant	Sound Recording	Survey and Map Making	Transport of goods in Container by Rail	Programme Producer
Management of Investment ULIP Service	Site formation and clearance, excavation and earthmoving and demolition and such other activities	Survey and Exploration of Mineral Oil and Gas	Transport of goods by road	Processing and Clearing House Service
Mailing List Compilation	Ship Management	Support services of business or	Transport of Goods by Aircraft	Port

and Mailing		commerce		
Life insurance in relation to risk cover	Share Transfer Agent	Supply of Tangible Goods Service	Club or Association	Photography
Internet Telephony	Security Agency	Development and Supply of Contents	Clearing & Forwarding Agent	Pandal or shamiana
Internet Cafe	Scientific and Technical consultancy	Design Services	Cleaning Activity	Packing Activity
Interior decorator	Sale of space or time for advertisement	Custom House Agent	Chartered Accountant	Outdoor Caterer
Intellectual Property	Renting of immovable property	Credit Rating Agency	Cargo Handling	Other Port
Insurance auxiliary services concerning life insurance business	Rent-A-Cab scheme operator	Credit / Debit / Charge or Other payment Card	Cable Operator	Opinion Poll
Insurance auxiliary services concerning general insurance business	Erection, Commissioning or Installation	Courier	Business Exhibition	Online Information & Data Base Access or retrieval
Information Technology Software Services	Dry Cleaning	Cost Accountant	Business Auxiliary Service	Architect
Health Club & Fitness	Dredging Service	Convention Centre	Authorized Service Station	Airport Services
General Insurance	Broadcasting agency or organization	Consulting Engineer	Auctioneers	Air Travel Agent
Franchise	Beauty Treatment	Construction of Complex	ATM operations, maintenance or management	Advertisement Agency
Forward Contract	Banking or Financial Services	Company Secretary	Asset management service	Commercial Training or Coaching Centre
Foreign Exchange Broker	Event Management	Commodity Exchange Service	Fashion Designer	Commercial or Industrial Construction Service

CIA

Total No. of Questions: 10 | **Maximum Marks: 100**
No. of Pages : 2 | **Time Allowed: 3 Hours**

All Questions are compulsory

Part - I (10 Marks)

1. (a) Define any of the five terms briefly:
   - (i) Control Unit
   - (ii) Secondary Storage
   - (iii) BCD
   - (iv) Master File
   - (v) Data Duplication
   - (vi) Firewall

   (b) Give one or more reasons of use for each of the following:
   - (i) Uses of spooling software
   - (ii) Uses or video controller
   - (iii) Uses of voice recognition software
   - (iv) Uses of EDI
   - (v) Uses of file management software

Answer any two of the following: (2 X 5 = 10 Marks)

2.
   a. Briefly discuss the operations performed in data processing system.
   b. Explain in brief the different types of computer systems based on their efficiency.
   c. Discuss the advantages and disadvantages of the computer system.

(2 X 5 = 10 Marks)

3.
   (a) What are the various problems related with the management of file processing system.
   (b) Briefly describes the various components of the database environment.

(10 Marks)

4. Draw the flowchart for finding the amount of an annuity of Rs. A in N years. Rate of interest is r%. This amount is given by the following series: A + AR + AR2 + ...ARN-1. Where R = (1 + r)

Write short notes on the following:

(2 X 5 = 10 Marks)

5.
   (a) Briefly describe the applications of e-commerce.
   (b) Discuss the various features of the data center.

Part – II (3x2=6)

6. *State with reasons which of the following statements is correct/incorrect (Attempt any three)*

   (a) Divesting a major product line or market in an organization can be termed as retrenchment strategy.
   (b) “B” in BCG Matrix stands for balance.
   (c) Concentric diversification amounts to unrelated diversification.
   (d) Vertical diversification integrates firms forward or backward in the product chain.
   (e) A core competence is a unique strength of an organization, which may not be shared by others.

Briefly answer the following questions in 2-3 sentences each. (2x2=4)

7.

a. What is six sigma?
b. Define Benchmarking.
c. What is Total Quality Management (TQM)?
d. Define Demarketing.

8. (6+4=10)

a) Explain in detail the term corporate strategy with its characteristics.
b) Critically explain the BCG matrix.

9. (5+5=10)

a) Write an explanatory note on strategic business units.
b) Explain the concept of value chain analysis

(20 Marks)

10. ABC LTD is the India's premier public service broadcaster with more than 1,000 transmitters covering 90% of the country's population across an estimated 70 million homes. It has more than 20,000 employees managing its metro and regional channels. Recent years have seen growing competition from many private channels numbering more than 65, and the cable and satellite operators (C & S). The C & S network reaches nearly 30 million homes and is growing at a very fast rate.

ABC LTD's business model is based on selling half-hour slots of commercial time to the programme producers and charging them a minimum guarantee. For instance, the present tariff for the first 20 episodes of a programme is Rs.30 lakhs plus the cost of production of the programme. In exchange the producers get 780 seconds of commercial time that he can sell to advertisers and can generate revenue. Break-even point for producers, at the present rates, thus is Rs.75,000 for a 10 second advertising spot. Beyond 20 episodes, the minimum guarantee is Rs.65 lakhs for which the producer has to charge Rs.1,15,000 for a 10 second spot in order to break-even. It is at this point the advertisers face a problem – the competitive rates for a 10 second spot is Rs. 50,000. Producers are possessive about buying commercial time on ABC LTD. As a result the ABC LTD's projected growth of revenue is only 6-10% as against 50-60% for the private sector channels. Software suppliers, advertisers and audiences are deserting ABC LTD owing to its unrealistic pricing policy.

ABC LTD has three options before it. First, it should privatize, second, it should remain purely public service broadcaster and third, a middle path.

The challenge seems to be to exploit ABC LTD's immense potential and emerge as a formidable player in the mass media.

(i) What is the best option, in your view, for ABC LTD?
(ii) Analyse the SWOT factors the ABC LTD has.
(iii) Why to you think that the proposed alternative is the best?

AEC ACADEMY

28th SESSION MODEL EXAM

PCC- INFORMATION TECHNOLOGY & STRATEGIC MANAGEMENT

SUGGESSTED ANSWERS

1.(a)

(i) Control Unit: It supervises the operations of the entire computer. It selects the program statement from the storage unit, interprets the statement and sends the appropriate electronic impulses to the arithmetic/logic and storage units to carry out the operations required.

(ii) Secondary Storage: Secondary or Auxiliary storage is used for holding data and programs not currently in use. The large volume of data is stored in secondary storage devices like magnetic tape drives and magnetic disk drives.

(iii) BCD: The decimal weighing is maintained, but the digit is represented by a combination of the binary digits 0 and 1. A minimum of four bits must be used to encode each digit. Hence,each digit is represented by its binary equivalent using four bits.

(iv) Master File: It contains relatively permanent records for identification and summarizing statistical information. A product file, customer file and employee file are examples of master files.

(v) Data Duplication: When the same data (such as a customer name and address) is recorded and stored in several files, it is known as Data Duplication. This data redundancy or duplication causes problems when data has to be updated.

(vi) Firewall: These are systems that control the flow of traffic between the Internet and the firm internal LANs and systems. They are usually packaged as turnkey hardware/software packages, and are set up to enforce the specific security policies that are desired A firewall is a proven, effective means of protecting the firm internal resources from unwanted intrusion.

(b)

Uses of Spooling Software

The purpose of spooling software is to compensate for the speed differences between the computer and its peripheral devices. Spooling utilities can also be used on the input side, so that programs and data to be processed are temporarily stored in an input spooling area on disk.

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Uses or video controller

It contains the video-dedicated memory and other circuitry necessary to send information to the monitor for display on the screen. Video controllers are used in displaying the graphics and images with more colors and high resolution.

Uses of voice recognition software: Voice recognition software takes the smallest individual sounds in a language, called phonemes, and translates them into text or commands. One can speak to the computer rather than having to type.

Uses of EDI

Most of the purchasing transactions are routine jobs, they can be handled automatically, utilizing the staff for more demanding and less routine tasks. Quotes, estimates, order entry and invoicing will proceed more smoothly and efficiently .Orders received electronically ensure that information is available immediately, so that an organization can respond faster and be more competitive.

Uses of file management software

It lets users and programmers organize data into files and then process those files. This software performs such important processing tasks as information retrieval and report preparation; they are available for both large and small computers. It is used to create and store as many files as necessary for creating reports, and Allowing users to search for records having specific characteristics.

(a) Data Processing is the restructuring or reordering of data by people or machines, to increase their usefulness and value for some particular purpose. Data processing can be performed manually with the aid of such simple tools as paper, pencil and filing cabinets or electromechanically with the aid of unit record machines or electronically with the aid of a computer which is the major concern of the processing work. Certain fundamental operations must be performed while doing data processing. These operations are:

(1) Recording

(2) Classifying

(3) Sorting

(4) Calculating

(5) Summarising

(6) Reporting.

(b) There are three types of computer systems based on the working efficiency. These are discussed below:

(1) Analog computers process data input in a continuous form. Data such as voltage, resistance or temperature and pressure are represented in the computer as a continuous, unbroken flow of information. Analog computers are very useful in many systems. They are used to control processes in the food and the petroleum industries.
As the measurements in analog computers are carried out by a few single purpose devices, the analog computer offers low cost and ease in programming. The main disadvantage of an analog computer is its accuracy factor, and the limited storage capacity. Hence it is not suitable for processing business data.

(2) Digital computers count and accept letters or numbers through various input devices that convert the data into electric pulses, and perform arithmetic operations on numbers in discrete form. In addition to performing arithmetic operations, they are also capable of (1) storing data for processing, (2) performing logical operations, (3) editing or deleting the input data and (4) printing out the result of its processed routine at high speed. One of the main advantages in the use of digital computers is that any desired level of accuracy can be achieved by considering as many places of decimal as is necessary and hence are most suitable for business applications. The main disadvantage of digital computers is their high cost and the complexity in programming.

(3) Hybrid computers are computers that comprise features of analog computers and digital computers. The digital component normally serves as the controller and provides logical operations, while the analog component normally serves as a solver of differential equations.

(c) Advantages of Computer system:

(1) Speed: Computer operations are measured in milliseconds, microseconds, nanoseconds, and Pico seconds (one thousandth, one millionth, one billionth, and one trillionth of a second, respectively).

(2) Accuracy: Errors do occur in computer-based information systems, but precious few can be directly attributed to the computer system itself. The vast majority can be traced to a program logic error, a procedural error, or erroneous data. These are human errors.

(3) Reliability: Computer systems are particularly adept at repetitive tasks. Anything below 99.9% uptime, the time when the computer system is in operation, is usually unacceptable.

(4) Memory Capability: Computer systems have total and instant recall of data and an almost unlimited capacity to store these data. A typical mainframe computer system will have many billions of characters stored and available for instant recall.

Disadvantages of Computer systems:
(1) Program must be reliable: The computer does what it programmed to do and nothing else. But a program that has operated flawlessly for months can suddenly produce nonsense. Perhaps some rare combination of events has presented the system with a situation for which there no programmed course of action. Or perhaps the course of action provided by the programmer contains an error that just being discovered.

(2) Application logic must be understood: The computer can only process jobs which can be expressed in a finite number of steps leading to a specify goal. Each step must be clearly defined. If the steps in the solution cannot be precisely stated, the job cannot be done. This is why the computer may not be helpful to people in areas where subjective evaluations are important.

3
(a) There are several Management problems of file processing as discussed below:

(1) Data Duplication: Independent data files include a lot of duplicated data; the same data (such as a customer name and address) is recorded and stored in several files. This data redundancy causes problems when data has to be updated, since separate file maintenance programs have to be developed and coordinated to ensure that each file is properly updated.

(2) Lack of Data Integration: Having data in independent files makes it difficult to provide end users with information for ad hoc requests that require accessing data stored in several different files. Special computer programs have to be written to retrieve data from each independent file. This is difficult, time consuming, and expensive for the organizations.

(3) Data Dependence: In file processing systems, major components of a system i.e., the organization of files, their physical locations on storage, hardware and the application software used to access those files depend on one another in significant ways. Thus, if changes are made in the format and structure of data and records in a file, changes have to be made in all the programs that use this file. It is difficult to do it properly, and it results in a lot of inconsistency in the data files.

(4) Other Problems: In file processing systems, data elements are generally defined differently by different end users and applications. This causes serious inconsistency in the development of programs which access such data. In addition, the integrity (i.e. the accuracy and completeness) of the data is suspected because there is no control over their use and maintenance by authorized end users.

(b) Components of database environment are:

(1) The Data base files: These files have data elements stored in database file organization formats. The database is created in such a way so as to balance the data management objectives of speed, multiple access paths, minimum storage, program data independence, and preservation of data integrity.

(2) A data base management system (DBMS): A DBMS is a set of systems software programs that manages the data base files. The DBMS accesses the files, updates the records, and retrieves data as requested. The DBMS ensures that only those areas are accessed for which clearance has been granted. The DBMS has the responsibility for data security which is vital in a data base environment since data base is accessed by many users.

(3) The users: Users interact with the data base management system indirectly via applications programs or directly via a simple query language. This language enables the user to retrieve data in logical formats on an ad hoc basis. The user interaction with the data base management system includes the definition of the logical relationships in the database, input and maintenance of data, changing and deletion, And manipulation of data.

(4) A host language interface systems: This is the part of the DBMS that communicates with the applications programs. The host language interface interprets instructions in high-level language applications programs, such as COBOL and BASIC programs that request data from the files so that the data needed can be retrieved.

(5) The application programs: These programs perform almost the same functions that they do in a conventional system, but they are independent of the data files and use standard data definitions. This independence and standardization make special purpose program development easier and faster. Application programs, using the host language interface, are usually developed by professional programmers.

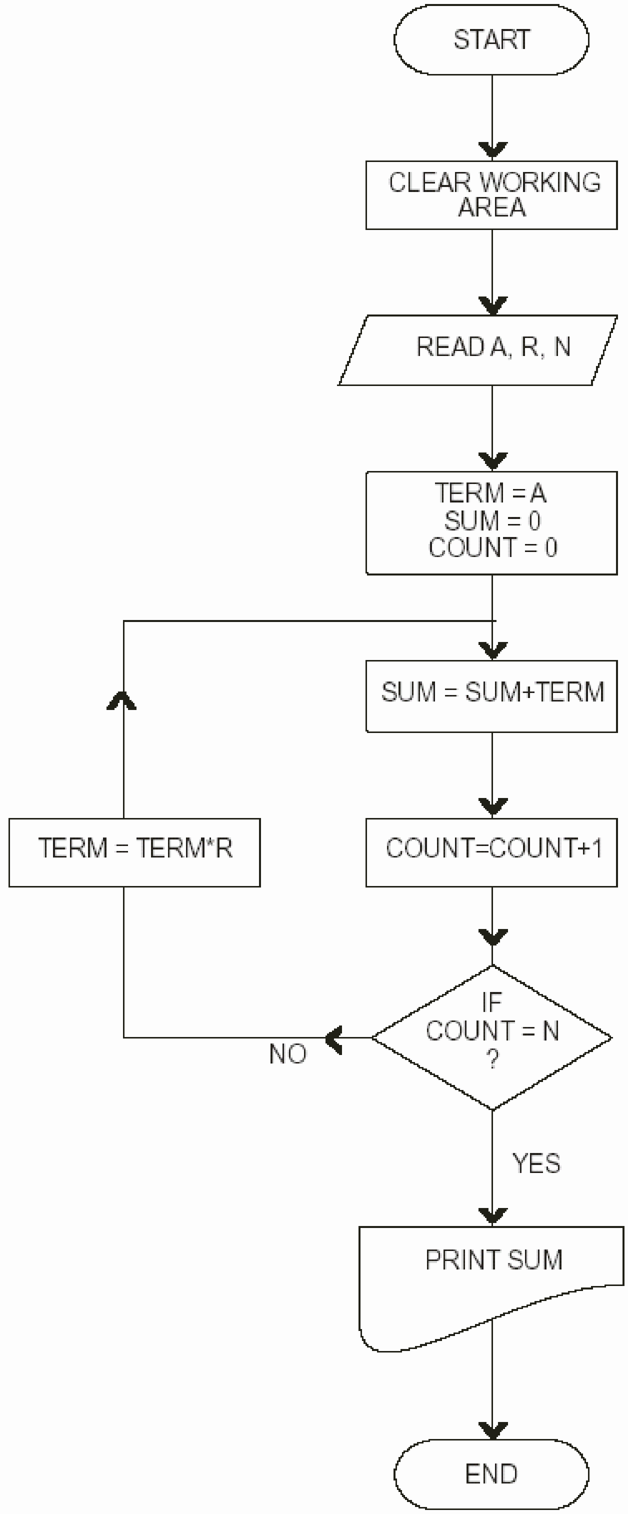
(6) A natural language interface systems: The query language (e.g. SQL) permits online update and inquiry by users who are relatively unsophisticated about Computer Systems. This language is often termed nglish-like ? Because instructions of this language are usually in the form of a simple command in English, rather than consisting of symbols and equations. Most of the commands of query languages are preprogrammed and are activated when the user keys in combinations of English words to accomplish an inquiry task. Query languages also permit online programming of simple routines by managers who wish to interact with the data.

(7) The data dictionary / directory : Data dictionary is a centralized depository of information, in a computerized form, about the data in the database. The data dictionary contains the scheme of the database i.e. the name of each item in the data base and a description and definition of its attributes along with the names of the programs that use them, and who is responsible for the data; authorization (access) tables that specify users and the data and programs authorized for their use.

(8) Online access and update terminals: These may be adjacent to the computer or even thousands of miles away. They may be dumb terminals, smart terminals, or microcomputers.

(9) The output system, or report generator: This provides routine job reports, documents and special reports. It allows programmers, managers and other users to design output reports without writing an application program in a programming language.

4


START
CLEAR WORKING AREA
READ A, R, N
TERM = A
SUM = 0
COUNT = 0
SUM = SUM+TERM
COUNT=COUNT+1
IF COUNT = N ?
NO
TERM = TERM*R
YES
PRINT SUM
END

5

a) There are three distinct general classes of e-commerce applications:

1. Customer to business: Customer to business e-commerce applications include:

Social portals: Electronic applications enable consumers to find online information about existing and new products and services. This also includes applications that enable consumers to communicate with each other through electronic mail, video-conferencing, and newsgroups.

Transaction portals: These include applications that enable and facilitate the completion of transactions between buyers and sellers. In electronically facilitated consumer-to-business transactions, customers learn about products through electronic publishing, buy products with electronic cash and other secure payment systems, and even have information goods delivered over the network.

(2) Intra-organization applications: Intra-organizational e-commerce applications include:

Workgroup communications: These applications enable managers to communicate with employees using electronic mail, videoconferencing, and bulletin boards. The goal is to use technology to increase the dissemination of information, resulting in better-informed employees.

Collaborative publishing: These applications enable companies to organize, publish, and disseminate human resources manuals, product specifications and meeting minutes using tools such as the World Wide Web. The goal is to provide the information to enable better strategic and tactical decision making throughout the firm. Also, online publishing shows immediate and clear benefits like reduced costs for printing and distributing documentation, faster delivery of information, and reduction of outdated information.

Sales force productivity: These applications improve the flow of information between the production and sales forces, and between firms and customers. By better integrating the sales forces with other parts of the organization, companies can have greater access to market intelligence and competitor information, which can be funneled into better strategy. The goal is to allow firms to collect market intelligence quickly and to analyze it more thoroughly.

(3) Inter-organization Applications: Inter-organizational e-commerce applications include:

Supplier management: Electronic applications help companies reduce the number of suppliers and facilitate business partnerships by reducing purchase order (PO) processing costs and cycle times, and by increasing the number of POs processed with fewer people.

Inventory management: Electronic applications shorten the order-ship-bill cycle. If the majority of a business partners are electronically linked, information once sent by fax or mail can now be instantly transmitted. Businesses can also track their documents to ensure that they were received there by improving auditing capabilities. This also helps to reduce inventory levels, improve inventory turns, and eliminate out-of-stock occurrences.

Distribution management: Electronic applications facilitate the transmission of shipping documents such as bills of lading, purchase orders, advanced ship notices and claims, and enable better resource management by ensuring that the documents themselves contain more accurate data.

Channel management: Electronic applications quickly disseminate information about changing operational conditions to trading partners. Technical, product, and pricing information that once required repeated telephone calls and countless hours can now be posted to electronic bulletin boards. By electronically linking production-related information with international distributor and reseller networks, companies can eliminate thousands of hours of labor and ensure accurate information sharing.

(b) Features of Data Centers are:
(1) Size: Data Centers are characterized foremost by the size of their operations. A financially viable Data Center could contain from a hundred to several thousand servers. This would require a minimum area of around 5,000 to 30,000 square meters.
Apart from this, the physical structure containing a data center should be able to withstand the sheer weight of the servers to be installed inside. Thus, there is a need for high quality construction.

(2) Data Security: Another issue critical for Data Centers is the need to ensure maximum data security and 100 per cent availability. Data Centers have to be protected against intruders by controlling access to the facility and by video surveillance. They should be able to withstand natural disasters and calamities, like fire and power failures. Recovery sites must be well maintained as it is here that everything in the Data Center is replicated for failure recovery.

(3) Availability of Data: The goal of a Data Center is to maximize the availability of data, and to minimize potential downtime. To do this, redundancy has to be built in to all the mission critical infrastructure of the Data Center, such as connectivity, electrical supply, security and surveillance, air conditioning and fire suppression.

(4) Electrical and power systems: A Data Center should provide the highest power availability with uninterrupted power systems (UPS).

(5) Security: Physical security and Systems security are critical to operations. Thus, it should provide both types of security measures to ensure the security of equipment and data placed at the Data Center.

(a) Physical security: It can be achieved through
Security guards.
Proximity card and PIN for door access.
Biometrics access and PIN for door access.
24 x 365 CCTV surveillance and recording.

(b) Data security: Data security within a Data Center should be addressed at multiple levels
Perimeter security: This is to manage both internal and external threats. This consists of firewalls, intrusion detection and content inspections, host security, anti-virus and access control and administrative tools.
Access management: This is for both applications and operating systems that host these critical applications.

6
(a) Correct: An organization can redefine its business by divesting a major product line or market. The divesting can be termed as retrenchment strategy. The enterprise may withdraw from marginal markets; withdraw some brands or sizes of products. It may also withdraw of some slow moving products. In an extreme manner it may seek retirement either from the production or the marketing activity.
(b) Incorrect: The acronym BCG stands for Boston Consulting Group, an organization that developed a matrix to portray an organizational corporate portfolio of investment. This matrix depicts growth of business and the business share enjoyed by an organization. The matrix is also known for its cow and dog metaphors and is popularly used for resource allocation in a diversified company.
(c) Incorrect: Concentric diversification amounts to related diversification. Concentric diversification takes place when the products or services added are in different industry but are similar to the existing product or service line with respect to technology or production or marketing channels or customers.
(d) Correct: In vertically integrated diversification, firms opt to engage in businesses that are related to the existing business of the firm. It moves forward or backward in the chain and enters specific product with the intention of making them part of new businesses for the firm.
(e) Correct: A core competence is a unique strength of an organization, which may not be shared by others. If business is organized on the basis of core competence, it is likely to generate competitive advantage. A core competence provides potential access to a wide variety of markets. Core competencies should be such that it is Difficult for competitors to imitate them.

7

(a) Sigma is a highly disciplined process that helps in developing and delivering near-perfect products and services. It strives to meet and improve organizational outputs in terms of quality, cost, scheduling, manpower, new products and so on. It works continuously towards revising the current standards and establishing higher ones. It means taking systemic and integrated efforts toward improving quality and reducing cost.

(b) Benchmarking is an approach of setting goals and measuring productivity based on best industry practices. It developed out of need to have information against which performances can be measured. It is a process of continuous improvement in search for competitive advantage. It measures a company's products, services and practices against those of its competitors or other acknowledged leaders in their field.

(c) TQM is a people-focused management system that aims at continual increase in customer satisfaction at continually lowers real cost. It is a total system approach (not a separate area or program) and an integral part of high-level strategy; it works horizontally across functions and departments, involves all employees, top to bottom, and extends backward and forward to include the supply chain and the customer chain. TQM stresses learning and adaptation to continual change as keys to organizational success.

(d) Demarketing is a marketing strategy to reduce demand temporarily or permanently the aim is not to destroy demand, but only to reduce or shift it. This happens when the demand is too much to handle. For example, buses are overloaded in the morning and evening, roads are busy for most of times, and zoological parks are overcrowded on Saturdays, Sundays and holidays. Here demarketing can be applied to regulate demand.

8

a) The term strategy is associated with unified design and action for achieving major goals, gaining command over the situation with a long-range perspective and securing a critically advantageous position. Strategies are formulated at the corporate, divisional and functional level. Corporate strategies are formulated by the top managers. They include the determination of the business lines, expansion and growth, vertical and horizontal integration, diversification, takeovers and mergers, new investment and divestment areas, R & D projects, and so on. These corporate wide strategies need to be operational zed by divisional and functional strategies regarding product lines, production volumes, quality ranges, prices, product promotion, market penetration, purchasing sources, personnel development and like.

In general, a corporate strategy has the following characteristics:

It is generally long-range in nature, though it is valid for short-range situations alsoand has short-range implications.

It is action oriented and is more specific than objectives.

It is multi-pronged and integrated.

It is flexible and dynamic.

It is formulated at the top management level, though middle and lower level managers are associated in their formulation and in designing sub-strategies.

It is generally meant to cope with a competitive and complex setting.

It flows out of the goals and objectives of the enterprise and is meant to translate them into realities.

It is concerned with perceiving opportunities and threats and seizing initiatives to cope with them. It is also concerned with deployment of limited organizational resources in the best possible manner.

It gives importance to combination, sequence, timing, direction and depth of various moves and action initiatives taken by managers to handle environmental uncertainties and complexities.

It provides unified criteria for managers in function of decision making.

b) The BCG growth-share matrix is the simplest way to portray an organization's portfolio of investments. Growth share matrix also known for its cow and dog metaphors is popularly used for resource allocation in a diversified company. Using the BCG approach, a company classifies its different businesses on a two-dimensional growth-share matrix. Using the matrix, organizations can identify four different types of

Products or SBU as follows:
Stars
Cows
Question marks Dogs

9

a.In modern times, many big organizations structure their businesses into appropriate strategic business units (SBUs). An SBU is a grouping of related businesses, which is amenable to composite planning treatment. As per this concept, a multi-business enterprise groups its businesses into a few distinct business units in a logical manner. The purpose is to provide effective strategic planning treatment to each one of its products/businesses.
The three most important characteristics of SBU are:

It is a single business or a collection of related businesses which offer scope for independent planning and which might feasibly stand alone from the rest of the organization. Has its own set of competitors. Has a manager who has responsibility for strategic planning and profit performance, and who has control of profit-influencing factors.The identification of SBUs is a convenient starting point for planning since once the company's strategic business units have been identified, the responsibilities for strategic planning can be more clearly assigned.

b. Value chain analysis has been widely used as a means of describing the activities within and around an organization, and relating them to an assessment of the competitive strength of an organization (or its ability to provide value-for-money products or services). Value analysis was originally introduced as an accounting analysis to shed light on the 'value added' of separate steps in complex manufacturing processes, in order to determine where cost improvements could be made and/or value creation improved. These two basic steps of identifying separate activities and assessing the value added from each were linked to an analysis of an organization's competitive advantage by Michael Porter.

One of the key aspects of value chain analysis is the recognition that organizations are much more than a random collection of machines, money and people. These resources are of no value unless deployed into activities and organized into routines and systems which ensure that products or services are produced which are valued by the final consumer/user.

(i) For several years ABC Ltd. was the only broadcaster of television programmes in India. After the opening of the sector to the private entrepreneur (cable and satellite channels), the market has witnessed major changes. The numbers of channels have increased and also the quality of programmes, backed by technology, has improved. In terms of quality of programmers, opportunity to advertise, outreach activities, the broadcasting has become a popular business. Broadcasters too have realized the great business potential in the market. But for this, policies need to be rationalized and be opened to the scope of innovativeness not only in term of quality of programmes. This would not come by simply going to more areas or by allowing bureaucratic set up to continue in the organization. Strategically the ABC LTD. needs to undergo a policy overhaul. ABC LTD., out of three options, namely privatization, public service broadcaster or a middle path, can choose the third one, i.e. a combination of both. The whole privatization is not possible under the diversified political scenario. Nor it would be desirable to hand over the broadcasting emotively in the private hand as it proves to be a great means of communication of many socially oriented public programmers. The government could also think in term of creating a corporation and provide reasonable autonomy to ABC LTD. So far as its advertisement tariff is concerned that can be made fairly competitive. However, at the same time cost of advertising is to be compared with the reach enjoyed by the ABC Ltd., The number of viewers may be far more to justify higher tariffs.

(ii) The SWOT analyses involve study of strengths, weaknesses, opportunities and threats of an organization. SWOT factors that are evidently available to the ABC Ltd. are as follows:

S – Strength
- More than 1000 transmitters.
- Covering 90% of population across 70 million homes against only 30 million home by C & S.
- More than 20,000 employees.

W – Weakness
- Rigid pricing strategy.
- Low credibility with certain sections of society.
- Quality of program's is not as good as compared to C & S network

O – Opportunities
- Infrastructure can be leased out to cable and satellite channel.
- Digital terrestrial transmission.
- Regional focused channels.
- Allotment of time, slots to other broadcasters.

T – Threats
- Desertion of advertisers and producers may result in loss of revenues.
- Due to quality of program the reach of C & S network is continuously expanding.
- As the C & S network need the trained staff, some employees of ABC LTD. may switchover and take new jobs.
- Best of the market-technology is being used by the private channels.

(iii) It is suggested that the ABC LTD., should adopt a middle path. It should have a mix of both the Options. It should economize on its operational aspects and ensure more productivity in term of revenue generation and optimization of use of its infrastructure. Wherever, the capacities are underutilized, these may be leased out to the private operations. At the same time quality and viewer ship of programmes should be improved.

Bureaucracy may reduce new strategic initiatives or make the organization less transparent. Complete privatization can fetch a good sum and may solve many of the managerial and operational problems. However, complete public monopoly is not advisable because that denies the government to fully exploit the avenue for social and public use. The government will also lose out as it will not be able to take advantage of rising potential of the market.