CA FINAL – May 19

SUBJECT- SCM AND PE

Test Code – FNJ 7039

(Date :)

(Marks - 100)

Question 1 is compulsory and attempt any 4 out of remaining 5 questoins

Question 1:

'HAL' is a manufacturer, retailer, and installer of Cassette Type Split AC for industrial buyers. It started business in 2001 and its market segment has been low to medium level groups. Until recently, its business model has been based on selling high volumes of a standard AC, brand name 'Summer', with a very limited degree of customer choice, at low profit margins. 'HAL''s current control system is focused exclusively on the efficiency of its manufacturing process and it reports monthly on the following variances: material price, material usage and manufacturing labour efficiency. 'HAL' uses standard costing for its manufacturing operations. In 2018, 'HAL' employs 20 teams, each of which is required to install one of its 'Summer' AC per day for 350 days a year. The average revenue per 'Summer' AC installed is Rs. 36,000. 'HAL' would like to maintain this side of its business at the current level. The 'Summer' installation teams are paid a basic wage which is supplemented by a bonus for every AC they install over the yearly target of 350. The teams make their own arrangements for each installation and some teams work seven days a week, and up to 12 hours a day, to increase their earnings. 'HAL' usually receives one minor complaint each time a 'Summer' AC is installed and a major complaint for 10% of the 'Summer' AC installations.

In 2016, 'HAL' had launched a new AC, brand name 'Summer – Cool'. This AC is aimed at high level corporate and it offers a very large degree of choice for the customer and the use of the highest standards of materials, appliances, and installation. 'HAL' would like to grow this side of its business. A 'Summer- Cool' AC retails for a minimum of Rs. 1,00,000 to a maximum of Rs. 5,00,000. The retail price includes installation. In 2017 the average revenue for each 'Summer – Cool' AC installed was Rs. 3,00,000. Currently. 'HAL' has 7 teams of 'Summer – Cool' AC installers and they can install up to 240 AC a year per team. These teams are paid salaries without a bonus element. 'HAL' has never received a complaint about a 'Summer – Cool' AC installation. 'HAL''s business is generated from repeat orders, recommendations, and local press advertising. It employs three sales executives who earn an annual salary of Rs. 3,00,000 each. It offers a six – month money back guarantee and this has to be fulfilled for 1% of its installations. 'HAL' has always been in profits but was shocked to see that in its results in 2017 it only earned 0.2% net profit on its turnover.

Required

(i) EVALUATE the **appropriateness of 'HAL''s current control system**. **(8 marks)**

(ii) RECOMMEND **four Critical Success Factors (CSFs)** which could assist 'HAL' in achieving future success. **(8 marks)**

(iii) ADVISE 'HAL' about the **changes it could implement** in its standard costing and reporting system to achieve improved control. **(4 marks)**

Question 2:

(A)

Z Plus Security (ZPS) manufactures surveillance camera equipment that are sold to various office establishments. The firm also installs the equipment at the client's place to ensure that it works properly. Each camera is sold for Rs. 2,500. Direct material cost of Rs. 1,000 for each camera is the only variable cost. All other costs are fixed. Below is the information for manufacturing and installation of this equipment :

Particulars	Manufacture	Installation
Annual Capacity (camera units)	750	500
Actual Yearly Production and Installation (camera units)	500	500

Required

The questions below are separate scenarios and are not related to each other.

(i) IDENTIFY the bottleneck in the operation cycle that ZPS should focus on improving. Give reasoning for your answer. **(3 marks)**

(ii) An improvement in the installation technique could increase the number of installations to 550 camera units. This would involve total additional expenditure of Rs. 40,000. ADVISE ZPS whether they should implement this technique ? **(4 marks)**

(iii) Engineers have identified ways to improve manufacturing technique that would increase production by 150 camera units. This would involve a cost Rs. 100 per camera unit due to necessary changes to made in direct materials. ADVISE ZPS whether they should implement this new technique. **(3 marks)**

(B)

BYD Alloy Ltd. first opened its door in 1990 for business and now it is a major supplier of metals supporting over a dozen different industries and employs experts to support each industry. These include Wood & Panel Products Manufacturing, Hearth Products, Site Furnishings, Commercial and Residential Construction etc. It has grown through devotion to its customers, dedication to customer service and commitment to quality products. The company has two divisions : Division 'Y' and Division 'D'. Each division work as an investment centre separately. Salary of each divisional manager is Rs. 7,20,000 per annum with the addition of an annual performance related bonus based on divisional return on investment (ROI). A minimum ROI of 12% p.a. is expected to be achieved by each divisional manager. If a manager only achieves the 12% target, he will not be rewarded a bonus. However, for every whole 1% point above 12% which the division achieves for the year, a bonus equal to 3% of annual salary will be paid subject to a maximum bonus of 20% of annual salary. The figures belonging to the year ended 31st March 2018 are given below :

	Division 'Y' ('000)	Division 'D' ('000)
Revenue	29,000	17,400
Profit	5,290	3,940
Less : Head Office Cost	(2,530)	(1,368)
Net Profit	2,760	2,572
Non – Current Assets	19,520	29,960
Cash, Inventory, and Trade Receivable	4,960	6,520
Trade Payable	5,920	2,800
Manager Responsible	HAI	FAI

During the financial year 2017 – 18, FAI manager of Division 'D' invested Rs. 13.6 million in new equipment including an advanced cutting machine, which will increase productivity by 10% per annum. HAI, manager of Division 'Y', has made no investment during the year, even its computer system needs updation. Division 'Y''s manager has already delayed payments of its suppliers due to limited cash & bank balance although the cash balance at Division 'Y' is still better than that of Division 'D'.

Required

(i) For each division, COMPUTE, ROI for the year ending 31st March 2018. Justify the figures used in your calculation. **(3 marks)**

(ii) COMPUTE bonus of each manager for the year ended 31st March 2018. **(2 marks)**

(iii) DISCUSS whether ROI provides justifiable basis for computing the bonuses of managers and the problems arising from its use at BYD for the year ended 31 March 2018.

(5 marks)

Question 3:

(A)

A company produces and sells a single product. The cost data per unit for the year 2017 is predicted as below:

	Rs. per unit
Direct Material	35
Direct Labour	25
Variable Overheads	15
Selling Price	90

The company has forecast that demand for the product during the year 2017 will be 28,000 units. However, to satisfy this level of demand, production quantity will be increased?

There are no opening stock and closing stock of the product.

The stock level of material remains unchanged throughout the period.

The following additional information regarding costs and revenue are given:

- 12.5% of the items delivered to customers will be rejected due to specification failure and will require free replacement. The cost of delivering the replacement item is Rs.5 per unit.
- 20% of the items produced will be discovered faulty at the inspection stage before they are delivered to customers.
- 10% of the direct material will be scrapped due to damage while in storage. Due to above, total quality costs for the year is expected to be Rs.10,75,556.

The company is now considering the following proposal:

1. To introduce training programmes for the workers which, the management of the company believes, will reduce the level of faulty production to 10%. This training programme will cost Rs.4,50,000 per annum.
2. To avail the services of quality control consultant at an annual charges of Rs.50,000 which would reduce the percentage of faulty items delivered to customers to 9.5%.

Required

(i) PREPARE a statement of expected quality costs the company would incur if it accepts the proposal. Costs are to be calculated using the four recognised quality costs heads.

(12 marks)

(ii) Would you RECOMMEND the proposal? Give financial and non-financial reasons.

(4 marks)

(B)

From the following independent situations, determine the appropriate pricing strategy.

	Situation
(i)	'A' is a new product for the company and the market and meant for large scale production and long term survival in the market. Demand is expected to be elastic.
(ii)	'B' is a new product for the company, but not for the market. B's success is crucial for the company's survival in the long term.
(iii)	'C' is a new product to the company and the market. It has an inelastic market. There needs to be an assured profit to cover high initial costs and the unusual sources of capital have uncertainties blocking them.
(iv)	'D' is a perishable item, with more than 80% of its shelf life over.

(4 marks)

Question 4:

(A)

Standard Corporation Inc. (SCI) is a US based multinational company engaged in manufacturing and marketing of Printers and Scanners. It has subsidiaries spreading across the world which either manufactures or sales Printers and Scanners using the brand name of SCI.

The Indian subsidiary of the SCI buys an important component for the Printers and Scanners from the Chinese subsidiary of the same MNC group. The Indian Subsidiary buys 1,50,000 units of components per annum from the Chinese subsidiary at CNY (¥) 30 per unit and pays a total custom duty of 29.5% of value of the components purchased.

A Japanese MNC which manufactures the same component which is used in the Printer and Scanners of SCI, has a manufacturing unit in India and is ready to supply the same component to the Indian subsidiary of SCI at Rs. 320 per unit.

The SCI is examining the proposal of the Japanese manufacturer and asked its Chinese subsidiary to presents its views on this issue. The Chinese subsidiary of the SCI has informed that it will be able to sell 1,20,000 units of the components to the local Chinese manufactures at the same price i.e. ¥ 30 per unit but it will incur an excise duty @ 10% on sales value. Variable cost per unit of manufacturing the component is ¥ 20 per unit. The Fixed Costs of the subsidiaries will remain unchanged.

The Corporation tax rates and currency exchange rates are as follows :

Corporation Tax rates		Currency Exchange Rates
China	25%	1 US Dollar ($) = Rs. 61.50
India	34%	1 US Dollar ($) = ¥ 6.25
USA	40%	1 CNY (¥) = Rs. 9.80

Required :

(i) PREPARE a financial appraisal for the impact of the proposal by the Japanese manufacturer to supply components for Printers and Scanners to Indian subsidiary of SCI. (Present your solution in Indian Currency and its equivalent.]

(8 marks)

(ii) IDENTIFY other issues that would be considered by the SCI in relation to this proposal.

(6 marks)

(**Note :** While doing this problem use the only information provided in the question itself and ignore the actual taxation rules or treaties prevails in the above mentioned countries)

(B)

Napier Company uses a backflush costing system with three trigger points :

(a) Purchase of Direct Materials

(b) Completion of Good Finished Units of Product

(c) Sales of Finished Goods

You are provided with the following information for July 2016.

Direct Materials Purchased	Rs. 2,64,000	Conversion Costs Allocated	Rs. 1,20,000
Direct Materials Used	Rs. 2,55,000	Costs Transferred to Finished Goods	Rs. 3,75,000
Conversion Costs Incurred	Rs. 1,26,600	Cost of Goods Sold	Rs. 3,57,000

Required

(i) Prepared journal entries for July (without disposing of under allocated/ over allocated conversion costs). **(3 marks)**

(ii) Under an ideal JIT production system, how would the amounts in your journal entries change from the journal entries in requirement (i) ? **(3 marks)**

Note:

→ There are no beginning inventories.

→ Assume there are no direct material variances.

Question 5:

(A)

A fertilizer company produces Grade A and Grade B fertilizers. One kilogram of Grade A fertilizer sells for Rs. 280 per kilogram and one kilogram of Grade B fertilizer sells for Rs. 400 per kilogram.

The products pass through three cost centers CC1, CC2 and CC3 during the manufacturing process. Total direct material cost per kilogram of fertilizer produced is Rs. 300 and direct labor cost per kilogram of fertilizer produced is Rs. 200. Allocation between the cost centres is given below :

Particulars	CC1	CC2	CC3	Total
Cost of Direct Material (per kg of fertilizer produced)	Rs. 90	Rs. 120	Rs. 90	Rs. 300
Cost of Direct Labour (per kg of fertilizer produced)	Rs. 60	Rs. 80	Rs. 60	Rs. 200
Cost Allocation to Grade A	30%	50%	30%	-
Cost Allocation to Grade B	70%	50%	70%	-

All of expenses (considered to be overheads) per kilogram of fertilizer produced is Rs. 150.

This is allocated equally between Grade A and Grade B fertilizer. Pricing decisions for the fertilizers is made based on the above cost allocation.

The management accountant of the company has recently come across the concept of environmental management accounting. Pricing of products should also factor in the environmental cost generated by each product. An analysis of the overhead expenses revealed that the total cost of Rs. 150 per kilogram of fertilizer produced, includes incinerator costs of Rs. 90 per kilogram of fertilizer produced. The incinerator is used to dispose the solid waste produced during the manufacturing process. Below is the cost center and product wise information of solid waste produced :

Waste produced (in tonnes per annum)	CC1	CC2	CC3	Total
Grade A	2	3	1	6
Grade B	2	2	5	9

Based in the impact that each product has on the environment, the management would like to revise the cost allocation to products based taking into account the incinerator cost that each product generates. The remaining overhead expenses of Rs. 60 per kilogram of fertilizer produced can be allocated equally.

Required :

CALCULATE product wise profitability based on the original cost allocation. RECALCULATE the product wise profitability based on activity based costing methodology (environmental management accounting). **(12 marks)**

(B)

ANZ. Ltd. has provided the following summarized results for two years :

	Year ended (Rs. In lacs)	
	31.3.2016	**31.3.2017**
Sales	3,000	3,277.50
Material	2,000	2,357.50
Variable overheads	500	525.00
Fixed overheads	300	367.50
Profit	200	27.50

During the year ended 31.3.2017 sale price has increased by 15% whereas material and overhead prices have increased by 15% and 5% respectively.

Required :

(i) Analyse the variances of revenue and each element of cost over the year in order to bring out the reasons for the change in profit.

(ii) Present a profit reconciliation statement starting from profits in 2015 – 16 showing the factors responsible for the change in profits in 2016 – 17.

Note – Consider 'Contribution Variances' for solving this question. **(8 marks)**

Question 6:

(A)

History of the Company

Great Bus Tours Co. Ltd. (GBTCL) is an open top double-decker bus sightseeing company, particularly identified with its special red and cream-colored buses. It commenced operating in small town of Meghalaya in June 2014 with four buses and as of 2018 operated over 44 buses in north east region of India. GBTCL operates five routes with stops at tourist destinations. The company runs hop-on, hop-off bus tours of various hills, with one 24-hour ticket valid for unlimited journeys on the route.

Budget Process/ Incentive Plan

As a part of management performance control and incentive scheme it has been following participative budgeting approach. In GBTCL, budgeting is a joint process in which functional divisions develop their plans in conformity with corporate goals for the next financial year. Based on these plans, divisions prepare functional budgets and send to the appropriate management for review and approval. The budgets after the incorporation of the feedback and suggestions received from the said management, are finalised for the implementation. Then, finalised budgets are used as yardstick for performance measurement. Comparing the actual performance with the yardstick, bonus and other performance related incentives are considered. The higher management believe that this performance control and incentive scheme is very helpful to measure the performance and fixing responsibilities for the responsibility centres.

Budgeted Income Statement (`'000)

Revenue	1,13,800
Less:	
Variable Costs-	
Direct Material (Fuel, Lubricants and Sundries)	13,600
Direct Labour	40,500
Variable Overheads	7,700
Fixed Costs-	
Operating Overheads (Buses, Garage, Salaries)	18,100
Marketing and Administration	10,700
Profit/ (Loss) before taxes	23,200

Tabel-1

Current Year's Income Statement (`'000)

Revenue	93,500
Less:	
Variable Costs:	
Direct Material (Fuel, Lubricants, and Sundries)	19,600
Direct Labour	37,700
Variable Overheads	6,200
Fixed Costs:	
Operating Overheads (Buses, Garage, Salaries)	20,150
Marketing and Administration	10,100

Profit/ (Loss) before taxes	(250)

Tabel-2

Other Information

Surprisingly above given current year's actual results were not up to the mark. Actual results were clearly showing adverse performance in comparison with budgeted figures.

Managers of GBTCL were upset because they did not receive the bonus. Ms. Maggie, Tour Manager of Route No. 3, said –

"We lost 2 month's revenue and fuel prices are almost doubled. We did our best but these circumstances were beyond our control and we should not penalize at all."

In support of her statement, Ms. Meggie provided following additional information –

(a) Rain is common in Northern Region. But, the past year set a record in numbers. In July, the expected average was 1,577 mm and received was 1,810 mm, In August the expected average rain was 990 mm and actual received was 1,535 mm. Heavy rain in these two months disrupted normal life of the region.

(b) The fuel prices have risen almost continuously since last year due to surge in global crude prices.

(c) Additional operational expenses `22,00,000 also incurred to remove the milky appearance and give the stainless a nice new look effected by heavy rain.

She claimed that –

"Revised budget with consideration of the above factors would give different results and lead to different conclusions"

Required

ANALYSE the tour manager's view. **(10 marks)**

(B)

If DBC Ltd. is producing a component called 'DBC'. Estimated costs are :

	Fixed Cost per year (Rs. '000)	**Variable Cost per 'DBC' (Rs.)**
Production	32,000	3,600
Distribution	2,000	200

Direct labour costs are 40% of the variable production costs. In the production department machining and assembling of 'DBC', 90 men work 8 hours per day for 300 days in a year. Each worker can machine and assemble 1 'DBC' per uninterrupted 180 minutes time frame. In each 8 hours working day, 20 minutes are allowed for coffee – break, 30 minutes on an average for training and 22 minutes for supervisory instructions. Besides 10% of each day is booked as idle time to cover checking in and checking out changing operations, getting materials and other miscellaneous matters.

DBC Ltd. has been facing industrial relations problem as the workers of company have a very strong union. Company is faced with the possibility of a strike by direct production workers engaged on the assembly of 'DBC'. The trade union is demanding an increase of 15%, back – dated from the beginning of financial year, but the company expects that if a strike does take place, it will last 25 Days after which the union will settle for an increase of 10% similarly back – dated. The only product of the company is being sold at Rs. 6,000.

If the strike takes place, Sales of 1,300 ‘DBC’ would be lost. The balance that would ordinarily have been produced during the strike period could, however be sold, but these ‘DBC’ would have to be made up in overtime working which would be at an efficiency rate of 90% of normal. This would entail additional fixed cost of Rs. 1,00,000 and wage payments at time and one – half.

Required

Give necessary advice to the management to allow the strike to go ahead or to accept the union’s demand. **(10 marks)**