

Roll No.

Total No. of Questions – 6

Total No. of Printed Pages – 16

Time Allowed – 3 Hours

Maximum Marks – 100

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Answers to questions are to be given only in English except in case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

Question No. 1 is compulsory.

Candidates are also required to answer any **four** questions from remaining **five** questions.

Working notes should form part of the respective answer.

No statistical or other table will be provided with this question paper.

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1. PAL Finance Ltd. is one of the largest players in the consumer finance segment and is the most diversified and profitable non-banking finance company (NBFC) having 100 branches across the country. PAL's wide portfolio of products is spread across Consumer, Small and Medium Enterprises (SME), Commercial Lending and has substantial presence in rural lending as well. PAL is a pioneer in introducing interest-free EMI finance options in more than 50 categories, ranging from consumer durables to lifestyle products to groceries. The ever enthusiastic, always excited and confident management wants to make a foray into Wealth Management business vertical, which will focus on providing simple and effective long term financial planning concepts and tools for assisting customers in making informed decisions for their saving and investment needs.

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When the company thought about its strategy to achieve the Big Goal, the main focus was on an important element: 'what strength of our past do we want to carry into the future ?' Of all the options, one thought resonated across, reflecting in all outcomes over the course of its existence - Sustainability. This is the outcome of over half a century of work of the parent company-White Group; which is delivered through each business that the Group has ventured into. Anything that the company does has to pass through this critical filter.

To press with the idea further, the CEO of PAL Finance Ltd. has narrated four of its achievements over the period to the Group Chairman Mr. Sarva, by a soft communication which reads that:

- Focus on Existing Customers Needs

We believe that more products per customer cannot be achieved by more customers but by more satisfied customers. More satisfied our customers, more likely they'll partner with us for their next big pursuit. More likely, they'll recommend their family and friends to us. The more our customers recommend us, the less we need to worry on getting new customers. The less we worry on getting new customers the more we'll focus on existing customers.

- Innovation

We were the first to introduce a 3-minute on the spot approval for our Consumer Durable Finance offer, we are now down to 1 minute. By the time you have finished reading this, we would have added another partner to our Lifestyle Finance portfolio. And some of our customers would have already downloaded all their loan account statements through the online portal. The result of our obsession with sustainability - even, it is about your efforts.

- Technology

For the last five years, the company has continued to increase investment in technology. We adopt newer and emerging technologies keeping in mind the needs and preferences of our customers. This gives an unmatched flexibility of engaging with the company for every financing related requirement by the customers. Our technology enables our customers to transact without the restrictions of time, place and proximity. Our customers are in a position to get affirmative answers to questions like, Can I apply online ? Will I get a regular statement of account ? With every single detail of your loan. Giving me access anytime, anywhere ? Can I foreclose my loan ? Can I borrow back some of the loan I've repaid without a human interface ?

The company deploys technology not to take the human touch away but to give a richer customer experience, allowing a customer to exercise choices even when it comes to being serviced. Because technology alone is not the output, it is the creativity with which it is used that delivers the objective.

- Build Partnerships to achieve best practices

We believe when our customers buy a product or service from us, they are placing their trust in us. Trust itself is a delicate matter. It needs both expertise and experience, together. When we partner with NEEL for our online capabilities, with TAPAS for our software and with CITTA for process mapping and PRAJNA for auditing us, we believe we're implementing zero tolerance to compromise. And even for our partnerships, we have created benchmarks in innovation in how we have deployed their systems and processes to create bold new realities.

As a result of all these practices, during the current financial year - our performance shows:

- Number of new loans booked increased by 17% to 20 crores
- Customer franchise grew by 24% to 30 crores

ATN

- AUM grew by 27% to ₹ 1000 crores.
- Total income increased by 43% to ₹ 250 crores.
- Net interest income rose by 42% to ₹ 160 crores.
- Total operating cost grew by 35% to ₹ 50 crores.
- Total operating cost to net interest income improved to 33% from 35% in FY 2019.
- PAT grew by 32% to ₹ 55 crores.

Shareholders were satisfied with the good performance of the company and in turn good returns provided on their investments. The company had achieved brand loyalty with a satisfied customer base.

The group Chairman Mr. Sarva, an highly regarded intellectual, could infer that the communication narrating all the positives of PAL Finance by the CEO, is relatable to their recent conversation, wherein, the CEO was questioning the relevance of Business Excellence model suggested for PAL. Mr. Sarva who is known for his critical observations by his very nature, posted to the CEO on the prevailing insights in the White Group.

The group's philosophy of business revolves around four under mentioned principles:

- (i) Sustainability : Present success does not guarantee future - Sustainable success is crucial and a complicated factor.
- (ii) The essence of any business model is to be proactive rather than being reactive.
- (iii) An excellence in business cannot be attained if the staffs are forced to conform to certain norms.
- (iv) Whatever be the business model that suits the organization it is not to be taken as one time exercise.

Mr. Sarva is intended to appraise the CEO that Business Excellence Model is an overreaching framework for managing and aligning the multiple organizational initiatives and to have a sustained success for an indefinite future.

Required :

- (a) Based on the facts given above you are requested to analyse what Mr. Sarva has intended to convey to the CEO of PAL and why in just two lines. 1
- (b) Explain briefly what is meant by Business Excellence. 1
- (c) If you happen to be the Group Chairman, evaluate each of the group's philosophy of business revolving around the above mentioned four principles, to the CEO of PAL Finance Ltd to make him understand the relevance of Business Excellence Model to an organization. 4
- (d) List the tools available for PAL Finance Ltd to achieve and sustain excellence. 2
- (e) PAL Finance Ltd is a well-established player in the industry and is planning to expand its business. In order to achieve business excellence, apply the fundamentals of EFQM model in the context of PAL. 9
- (f) The criteria of the model comprise of 'enablers' and 'results'. Explain very briefly what is meant by 'enablers' and 'results'. 3

2. JKL Ltd manufactures two parts "AXE" and "WYE" for Car Industry.

Particulars	AXE	WYE
Annual Production & Sales	1,20,000	70,000
Selling price per unit	103.80	150

Direct and indirect costs incurred on these two parts are as follows :

(₹ in '000)

Particular of cost	AXE	WYE	Total
Direct Variable Cost	5,040	4,200	9,240
Labour Cost (variable)	1,800	1,400	3,200
Direct Machining Cost (see note)*	900	750	1,650
Indirect Costs			
Machine set-up cost			516
Testing cost			2,910
Engineering cost			2,340

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Note : Direct machining costs represents the cost of machine capacity dedicated to the production of each product. These costs are fixed and are not expected to vary over the long -run horizon.

Additional information is as follows :

Particulars	AXE	WYE
Production batch size	1,200 units	700 units
Set-up time per batch	40 hours	46 hours
Testing time per unit	4 hours	7 hours
Engineering cost incurred on each product	9,60,000	13,80,000

A foreign competitor has introduced a product very similar to "AXE". To maintain the company's share and profit, JKL Ltd. has to reduce the price to ₹ 90. The company calls for a meeting and comes up with a proposal to change the design of the product "AXE".

The expected effects of new design are as follows :

- Direct material cost is expected to decrease by ₹ 4 per unit.
- Labour cost is expected to decrease by ₹ 3 per unit.
- Machine time is expected to decrease by 20 minutes; previously it took 4 hours to produce 1 unit of AXE. The machine will be dedicated to the production of new design.
- Set-up time will be 38 hours for each set-up.
- Time required for testing each unit will be reduced by 1 hour.
- Engineering cost and batch size will remain unchanged.

Required :

- (i) Using activity based costing, calculate the full cost for parts "AXE" and "WYE" and mark-up on full cost per unit for part "AXE".

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- (ii) (a) What is the target cost per unit for new design to maintain the same mark-up percentage on full cost per unit as it had earlier ? Assume cost per unit of cost drivers for the new design remains unchanged. 2
- (b) Will the new design achieve the cost reduction target ? 5
- (iii) List four possible management actions that the JKL Limited should take regarding new design. 4
- (iv) State the most suitable situation for the adoption of target costing. 4

3. VEN Private Limited is a diversified agri-business company having three different business verticals - Dairy, Animal Feed and Crop Protection. The performance of each division is measured separately and staff members are rewarded accordingly.

Following information pertaining to the financials for the year ended 31st March, 2021 is furnished below :

	Amount (₹)		
	Dairy	Animal Feed	Crop Protection
Revenue	6,80,00,000	10,62,50,000	6,00,00,000
Profit before interest and tax	60,10,000	63,77,500	57,66,000
Net book value of plant and equipment	5,65,25,000	7,43,75,000	2,62,50,000
Net Current Assets (Current Assets less Current Liabilities)	1,04,75,000	1,51,25,000	60,00,000

Additional information :

- Cost of capital of the company is 9% per annum.

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- Profit before interest and tax as mentioned above has been arrived at after deducting head office expenses at 2% on the revenue of each division.
- Depreciation rate for plant and equipment is 15% on cost per annum.

The divisional performance of VEN is measured using the Return on Investment (ROI) and Residual Income (RI) methods based on controllable profits of each division. The staff members are rewarded based on these results. VEN calculates ROI and RI using Net Book Value of the plant and equipment at the reporting date.

The manager of Animal Feeds division claims that their division is the best performing division of the company.

Required :

- (a) Calculate the Return on Income and Residual Income for each division and explain the validity of the claim made by the manager of Animal Feeds division. 7

- (b) It has been proposed to expand the business of Dairy Division by venturing into manufacture of frozen desserts. This would require additional investment in plant and equipment of ₹ 1,75,00,000 which will generate a contribution of ₹ 95,00,000 per annum. Annual fixed cost of the division will increase by ₹ 8,50,000 (excluding depreciation). Net current assets of this division will increase by ₹ 25,00,000 due to acceptance of this proposal. 5

Evaluate the proposal of expansion of the Dairy Division for a period of one year and advise the management on the acceptance of the project using ROI and RI criteria.

- (c) Return on Investment (ROI) improves with the age of the asset. Explain with calculations how this happens using the proposal of the dairy division. 2

- (d) In addition to the financial performance measures, the management of VEN wishes to apply Non-financial Performance Indicators (NPFI) for three functions; (i) management of human resources, (ii) product and service quality and (iii) brand awareness and company profile. Explain the scope of Non-Financial Performance Indicators with regard to these three functions. 6

(9)

ATN

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4. (a) "INS" Insurance offers a wide range of insurance covers for individuals including a comprehensive range of term insurance products. It is planning to introduce the following changes :

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- (i) Option of paying insurance premium in installments-monthly, quarterly, or half yearly as well as annually. "INS" adds a surcharge of ₹ 50 per payment if the customers choose a mode other than annual payment.
- (ii) An incentive to the customers at 0.75% of the premium amount or ₹ 300 (whichever is lower) per payment if the customers opt for ECS facility.

Discuss, whether the above incentives, discount, or surcharges 'INS' intended to introduce are justified or not.

OR

ABC & Associates, a law firm has recently undertaken an analysis of its activities, but is uncertain which activity relates to which part of the firm's Value Chain.

Consider the following lists of activities within ABC and various Value Chain classifications.

	Activity		Value Chain classification
A	Dealing with claims of negligence by customer	1	Inbound logistics
B	Central control system that ensure each case is independently reviewed	2	Service
C	Attending court cases	3	Infrastructure
D	Receiving strong data from client meetings	4	Operations

You are required to :

- (i) Define the "Value Chain". 1
- (ii) Identify which activity relates to which dimension by pairing the appropriate letter and number. 4

ATN

P.T.O.

- (b) Pertaining to environmental management and sustainability, there are following two situations :

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Situation – I

Package food manufacturer XYZ Limited was ordered to submit a yearly report to the Ministry of Environment and Forests on activities, which contains information concerning collection, recovery and recycling of packaging waste, fulfillment of the targets, volume of recovered and recycled packaging waste by type of material and declaration that all compulsory contributions and taxes have been paid.

Situation – II

ABC Ltd. has achieved a 30% reduction of energy consumption through its "Go Renewable" Initiative. For the company, a 30% reduction represents a cost saving of about ₹ 25,00,000.

You are required to read above situations and explain :

- (1) The risk exposers of XYZ Ltd.
 - (2) How focusing on environmental sustainability provides opportunity to ABC Ltd. for reducing costs?
- (c) Coral Electronics (P) Limited with its headquarters in India manufactures and sells a 'tablet computer' with the brand name 'Iris 10'. The company has three divisions, each of which is located in a different country :

Malaysia division	manufactures motherboard, LCD (Liquid Crystal Display) and touch sensor panel
Singapore division	assembles tablet computers using locally manufactured parts, along with the motherboard, LCD (Liquid Crystal Display) and touch sensor panel which it receives from the Malaysia division
India division	packages and distributes tablet computer 'Iris 10'.

(11)

ATN

Marks

Each division is run as a profit center. The costs for the work done in each division for a single tablet computer are as follows:

Division	Variable Cost (per unit)	Fixed Cost (per unit)
Malaysia division	30 MY ringgit	65 MY ringgit
Singapore division	35 SG dollar	47 SG dollar
India division	₹ 635	₹ 1600

The Income tax rates on the division's operating income are:

Malaysia division	34%
Singapore division	17%
India division	25%

Each tablet computer 'Iris 10' is sold to retail stores in India for ₹ 19,000. Assume that the current foreign exchange rates are as follows :

1 MY ringgit = ₹ 17

1 SG dollar = ₹ 50

Further, both the Malaysia and Singapore divisions sell part of their production under a private label. The Malaysia division sells the comparable motherboard, LCD (Liquid Crystal Display) and touch sensor panel package used in each tablet computer 'Iris 10' to a Malaysian manufacturer for 147 MY ringgit. The Singapore division sells the comparable tablet computer to a Singaporean distributor for 134 SG dollar.

Required :

- (i) Calculate the after-tax operating income per unit earned by each division under the following transfer pricing methods : (a) market price and (b) 200% of full cost. 9
(Income taxes are not included in the computation of the cost-based transfer price.)
- (ii) Which transfer-pricing method will maximize the after-tax operating income per unit of Coral Electronics ? 1

ATN

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5. (a) DAC manufactures 'motor rotors' in two operations: casting and bonding. Following information is furnished :

	Casting	Bonding
Annual capacity	75,000 units	60,000 units
Annual production	60,000 units	60,000 units
Fixed operating costs (excluding direct materials)	₹ 2,40,00,000	₹ 1,50,00,000
Fixed operating costs per unit produced (₹ 2,40,00,000 ÷ 60,000 units, ₹ 1,50,00,000 ÷ 60,000 units)	₹ 400	₹ 250

Each motor rotor sells for ₹ 3600 and has direct material costs of ₹ 1600 incurred at the start of the casting operation. DAC has no other variable costs. DAC can sell whatever output it produces. The following requirements refer only to the preceding data. There is no connection between the requirements.

You are required to consider the following situations independently :

- (i) DAC is considering using some modern jigs and tools in the bonding operation that would increase annual bonding output by 750 units. The annual cost of these jigs and tools is ₹ 11,25,000. Should DAC acquire these tools ? Show your calculations. 1
- (ii) The production manager of the casting department has submitted a proposal to do faster setups that would increase the annual capacity of the casting department by 7,500 units and would cost ₹ 1,87,500 per year. Should DAC implement the change ? Show your calculations. 1
- (iii) An outside contractor offers to do the bonding operation for 9,000 units at ₹ 500 per unit, double the ₹ 250 per unit that it costs DAC to do the bonding in-house. Should DAC accept the subcontractor's offer ? Show your calculations. 2

- (iv) XYZ company offers to do casting process for 3,000 units at ₹ 200 per unit, half the ₹ 400 per unit that it costs DAC to do the casting process in-house. Should DAC accept XYZ company's offer ? Show your calculations. 2
- (v) Assume, DAC produces 1,500 defective units at the casting operation. What is the cost to DAC of the defective items produced ? Explain your answer briefly. 2
- (vi) Assume, DAC produces 1,500 defective units at the bonding operation. What is the cost to DAC of the defective items produced ? Explain your answer briefly. 2
- (b) SVS, is a company in the agri-food industry with four individual business groups. The company has an annual turnover of ₹ 50,000 crores and 15,000 employees. Its primary customers are retailers and SVS has production and sales worldwide. SVS is organized as a co-operative and is primarily owned by farmers who are in fact the co-operative members. The co-operative members are not only owners of SVS - they are also its suppliers. In fact, the owners are obliged to supply the bulk of their production to SVS. The agri-food industry is characterized by a wave of consolidations and co-operatives are actively taking part in this process. SVS is also active in this consolidation process and the company itself is a result of several mergers. In a co-operative, any net income for the year is either distributed to the farmers in proportion to the amount (or value) of the goods they supplied to the co-operative or it is transferred to equity. The distributions from the co-operative are of utmost importance to the farmers, as such distributions often constitute their main or only source of income. Farmers subjectively compare their co-operatives with alternative trading partners and their own farming operations with those of other farms. If they are dissatisfied, co-operative members can switch to a better-performing competitor to gain access to higher income. 10

SVS started changing its budgeting process recently, in connection with the implementation of a new Enterprise Resource Planning (ERP) system. At the time, the company decided to closely examine several business processes, including its planning and budgeting procedures. During that analysis, the Beyond Budgeting principles emerged as a relevant idea.

Required :

Explain briefly the concept of "Beyond Budgeting" and its characteristics. Discuss how the principles of "Beyond Budgeting" will promote a cultural framework that is suitable for the modern dynamic business environment.

6. (a) RST Herbals (P) Limited, which manufactures and sells a highly successful line of herbal home care and herbal personal care products, has decided to diversify in order to stabilize sales throughout the year.

The company is considering venturing into manufacture of natural health care products. After considerable research, the natural health care products line has been developed. However, the CEO of the company has decided to introduce only one of the new products during the next month. If the product is a success, further expansion in future years will be initiated.

The product selected is an immunity booster drink 'IM9' that will be sold in small glass bottles. The product will be sold to wholesalers in boxes of 24 glass bottles for ₹ 240 per box. Because of excess capacity, no additional fixed manufacturing overhead costs will be incurred to produce the product. However, a ₹ 27,00,000 charge for fixed manufacturing overhead will be absorbed by the product under the company's absorption costing system.

Using the estimated sales and production of 100,000 boxes of 'IM9', the Costing Department has developed the following cost per box:

Direct material	₹ 108
Direct labour	₹ 60
Manufacturing overhead	₹ 42
Total cost	₹ 210

The costs above include costs for producing both the immunity booster drink and the small bottle that contains it. As an alternative to making the small bottles, RST has approached a supplier to discuss the possibility of purchasing the bottles for 'IM9'. The purchase price of the empty bottles from the supplier would be ₹ 40.5 per box of 24 bottles. If RST accepts the purchase proposal, direct labour and variable manufacturing overhead costs per box of 'IM9' would be reduced by 10% and direct materials costs would be reduced by 25%.

Required :

- | | |
|---|---|
| (i) Should RST Herbals make or buy the bottles ? Show calculations to support your answer. | 3 |
| (ii) What would be the maximum purchase price acceptable to RST Herbals ? Explain. | 1 |
| (iii) Instead of sales of 100,000 boxes, revised estimates show a sales volume of 120,000 boxes. At this new volume, additional equipment must be acquired to manufacture the bottles at an annual rental of ₹ 12,00,000. Assuming that the outside supplier will not accept an order for less than 100,000 boxes, should RST Herbals make or buy the bottles ? Show computations to support your answer. | 1 |
| (iv) Refer to the data in (iii) above. Assume that the outside supplier will accept an order of any size for the bottles at ₹ 48 per box. How, if at all, would this change your answer ? Show computations. | 1 |
| (v) What qualitative factors should RST consider in determining whether they should make or buy the bottles ? | 4 |

- (b) RBC Company uses a two-variance analysis for overhead variances. Practical capacity is defined as 48 setups and 48,000 machine hours to manufacture 9,600 units for the year. Selected data for 2021 is as follows :

Budgeted fixed factory overhead :		
Set-up	₹ 96,000	
Other	₹ 3,00,000	₹ 3,96,000
Total factory overhead incurred		₹ 7,20,000
Variable factory overhead rate :		
Per set-up		₹ 900
Per machine hour		₹ 7.50
Total standard machine hours allowed for the units manufactured		45,000 hours
Machine hours actually worked		52,500 hours
Actual total number of set-ups		42

Required :

- Compute the total overhead spending variance, the overhead efficiency variance and the total overhead flexible-budget variance for 2021. 4
- Assume that the company uses only machine hours as the activity measure to apply both variable and fixed overhead and that it includes all set-up costs as variable factory overhead. What is the overhead spending variance, efficiency variance and flexible-budget variance for the year ? 4
- What are the factors to be considered when investigating variances ? 2