

INTERMEDIATE COURSE

GROUP – II

REVISION TEST PAPERS

MAY, 2026



BOARD OF STUDIES (ACADEMIC)
THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA
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New Delhi

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REVISION TEST PAPER, MAY, 2026– OBJECTIVE & APPROACH

(Students are advised to go through the following paragraphs carefully to derive maximum benefit out of this RTP)

I. Objective of Revision Test Paper

Revision Test Papers are one among the many educational inputs provided by the Board of Studies (Academic) to its students. Popularly referred to as RTP by the students, it is one of the very old publications of the BOS(A) whose significance and relevance from the examination perspective has stood the test of time.

The primary objectives of the RTP are:

- To help students get an insight of their preparedness for the forthcoming examination;
- To update them on the latest developments relevant for the forthcoming examination in select subjects;
- To enhance the confidence level of the students adequately.

Students must bear in mind that the RTP contains a variety of questions based on different topics of the syllabi and thus a comprehensive study of the entire syllabus is a pre-requisite before answering the questions of the RTP. In other words, in order to derive maximum benefit out of the RTPs, it is advised that before proceeding to solve the questions given in the RTP, students ought to have thoroughly read the Study Materials and Statutory Update, wherever applicable.

The topics on which the questions are set herein have been carefully selected and meticulous attention has been paid in framing different types of questions. Detailed answers are provided to enable the students to do a self-assessment and have a focused approach for effective preparation.

Live Virtual Classes by renowned subject experts conducted free of charge for the students of Foundation, Intermediate and Final levels provide the students much required support in preparing for their exams conveniently at home as these classes can be accessed live or viewed later as recorded lectures through hand-held devices such as smart phones, laptops, I-pads, tablets, etc. anytime anywhere. Further,

students are advised to attempt the Multiple-Choice Questions (MCQs) at MCQ Paper Practice Portal which is a holistic platform for self-assessment within the stipulated timeframe.

Students are welcome to send their suggestions for fine tuning the RTP to the Joint Director, Board of Studies (Academic), The Institute of Chartered Accountants of India, A-29, Sector-62, Noida 201309 (Uttar Pradesh). RTP is also available on BOS Knowledge Portal at <https://boslive.icai.org> for downloading.

II. Planning and preparing for examination

Ideally, when the RTP reaches your hand, you must have finished reading the relevant Study Materials of all the subjects available at the BoS Knowledge Portal. Get a good grasp of the concepts/ provisions/ amendments/ cases discussed therein.

After reading the Study Materials alongwith Statutory Update thoroughly, then, proceed to solve the questions given in the RTP on your own. RTP is an effective tool to revise and refresh the concepts and provisions discussed in the Study Material. RTPs are provided to you to help you assess your level of preparation. Hence you must solve the questions given therein on your own and thereafter compare your answers with the answers given therein.

Examination tips

How well a student fares in the examination depends upon the level and depth of his preparation. However, there are certain important points which can help a student better his performance in the examination. These useful tips are given below:

- Reach the examination hall well in time.
- As soon as you get the question paper, read it carefully and thoroughly. You are given separate 15 minutes for reading the question paper.
- Plan your time so that appropriate time is awarded for each question.
- First impression is the last impression. The question which you can answer in the best manner should be attempted first.

- Always attempt to do all questions. Therefore, it is important that you must finish each question within allocated time. Keep sometime for checking the answers as well.
- Read the question carefully more than once before starting the answer to understand very clearly as to what is required.
- Answer all parts of a question one after the other; do not answer different parts of the same question at different places.
- Write in a neat and legible hand-writing.
- Always be concise and write to the point and do not try to fill pages unnecessarily.
- There must be logical expression of the answer.
- In case a question is not clear, you may state your assumptions and then answer the question.
- Check your answers carefully and underline important points before leaving the examination hall.
- In case of case scenario based MCQs, read the facts given in the case attentively. Also, read each MCQ based thereon and all the options carefully, before choosing the correct answer.

III. Subject-wise Applicability

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

The Revision Test Paper (RTP) of Cost and Management Accounting comprises of two Divisions of total 17 questions: Division A (Case scenario and caselet based MCQs) which contains 2 case scenarios and 3 caselets and Division B (Descriptive questions) which contains 12 questions for full coverage of the syllabus. Theoretical questions along with computational problems have also been incorporated so that you are able to give emphasis to the theoretical portion of the syllabus as well. Since this paper's inclination is more towards numerical-oriented questions which involve mathematical calculations, therefore, it is very important that you have thoroughly studied the theoretical aspects of the subject and are also clear about the concepts and logic behind the mathematical workings and formulae.

A summary of the questions both theoretical and computational has been given for your reference:

Q. No.	Topic	About the Problem
Division A		
1.	Budget and Budgetary Control	Calculation of different figures through different budgets.
2.	Marginal Costing	Calculation of different requirement using P/V ratio and Break-even data.
3.	Marginal Costing	Calculation of P/V ratio.
4.	Process Costing	Calculation of number of units completed.
5.	Joint product and by product	Calculation of apportioned joint cost.
Division B		
6.	Material Costing	Calculation of EOQ, maximum stock levels and profitability analysis.
7.	Employee Cost	Calculation of earning under different systems.
8.	Overheads	Calculation of predetermined machine hour rates.
9.	Activity Based Costing (ABC) Method	Calculation of annual profit per machine using current basis and ABC.
10.	Cost Sheet	Preparation of Statement of Cost.
11.	Cost Accounting System	Preparation of different accounts, Costing and Financial P&L and Reconciliation Statement.
12.	Job and Batch Costing	Calculation of cost.
13.	Process Costing	Preparation of statement of equivalent production, cost per unit and processes account.

14.	Joint product and by product	Calculation of cost of inventories and COGS using NRV method.
15.	Standard Costing	Calculation of required figures and different variances.
16.	Service Costing	Calculation of membership fee.
17(a)	Introduction to Cost and Management Accounting	Different types of costs.
17(b)	Material Costing	Scrap vs Defective products and their accounting treatment.

PAPER – 5: AUDITING AND ETHICS

The Revisionary Test Paper (RTP) is a tool to refresh your knowledge which you have acquired while doing your conceptual study from Study Material and other modes of knowledge like BoS Live Learning Classes, Webinars, Saransh – Last Mile Referencer, Case Scenarios Booklet, Model Test Papers, Students' Journal, Bare Acts etc.

RTP of Auditing and Ethics for May, 2026 comprises twenty questions, including case scenario-based multiple-choice questions, independent multiple choice questions, and descriptive questions. These questions cover the entire syllabus, which is divided into eleven chapters as discussed in the study material.

These 20 questions are taken from different topics like Nature, Objective and Scope of Audit, Audit Strategy, Audit Planning and Audit Program, Risk Assessment and Internal Control, Audit Evidence, Audit of Items of Financial Statements, Audit Documentation, Completion and Review, Audit Report, Special Features of Audit of Different Type of Entities, Audit of Banks and Ethics and Terms of Audit Engagements. The chapter's name is clearly indicated before each question. The questions in the RTP have been arranged in the same sequence as prescribed in the study material to facilitate easy revision by the students. An attempt has been made to cover the syllabus comprehensively.

PAPER – 6: FINANCIAL MANAGEMENT AND STRATEGIC MANAGEMENT**Section – A: Financial Management**

The Revision Test Paper (RTP) of Financial Management comprises of two Divisions of total 10 questions: Division A (Case scenario based MCQs) which contains 1 case scenario and 2 caselets and Division B (Descriptive questions) which contains 7 questions for full coverage of the syllabus. Theoretical questions along with computational problems have also been incorporated so that you are able to give emphasis to the theoretical portion of the syllabus as well. Since this paper's inclination is more towards numerical-oriented questions which involve mathematical calculations, therefore, it is very important that you have thoroughly studied the theoretical aspects of the subject and are also clear about the concepts and logic behind the mathematical workings and formulae.

A summary of the questions both theoretical and computational has been given for your reference:

Q. No.	Topic	About the Problem
Division A		
1.	Dividend Decision	Calculation of different requirements through different models.
2.	Ratio Analysis	Calculation of bank credit and inventory
3.	Ratio Analysis	Calculation of capital gearing ratio
Division B		
4.	Ratio Analysis	Calculation of P&L and balance sheet items.
5.	Cost of Capital	Calculation of cost of different components.
6.	Capital Structure	Determine total market value, equity capitalization rate and WACC as per M.M. Approach.

7.	Leverage	Different concepts of leverage.
8.	Investment Decision	Analysis for lease rentals.
9.	Working Capital	Calculation of operating cycle and amount of working capital using operating cycle.
10(a)	Types of Financing	International funding and angel financing.
10(b)	Working Capital	Task of treasury department.
10(c)	Investment Decision	Acceptance rule under Internal Rate of Return (IRR).

Section – B: Strategic Management

The Revision Test Paper on the subject of Strategic Management for the May, 2026 examination contains sixteen questions. The questions have been selected from all the sections/chapters uniformly to cover whole syllabus. Questions are based on different skill levels, i.e., "Comprehension & Knowledge" as well as "Analysis & Application".

The questions included are of different categories – multiple choice questions based on case scenario and application based multiple choice questions, distinguish between, short notes, descriptive and questions based on practical scenarios. The first question contains multiple choice questions based on case scenario are subdivided into five different parts. Questions from two to six are application based multiple choice questions. All multiple-choice questions are given with four alternatives and the student has to opt for the correct option. Subsequently, ten different questions have been included to cover all the five chapters of the syllabus. Chapter names have been mentioned before questions. A descriptive question based on practical scenario has been included from each section. Another descriptive question has also been included from each section of the syllabus.

The students should take up this Revision test paper as a tool to check their preparedness in the subject. Mere reading of Revision Test Paper will not be helpful. To properly self-assess the preparation in the subject, students must attempt the questions on their own. Compare your answers with the suggested answers and hints given to assess the level of preparation and identify areas where more focus is required. Then you may work on these areas to improve the quality of answers that you write.

Work hard and perform well in the examination!



PAPER – 4: COST AND MANAGEMENT ACCOUNTING



QUESTIONS

PART I - Case Scenario based MCQs

Case Scenarios

1. ABC Enterprises is a well-established trading firm specialised in the distribution and sale of a diverse range of products, with a commitment to deliver superior quality to its customers.

Following informations are provided by ABC Enterprises:

- (a) The company is engaged in both cash and credit sales, with credit sales being twice of cash sales. Cash sales are eligible for 3% discount.
- (b) 60% of credit sales are collected within the same month of sale. The remaining 40% is collected in the following month. All receivables are expected to be fully recovered, with no bad debts anticipated.
- (c) The company employs a structured pricing policy, ensuring that the selling price includes a 20% profit margin on the selling price.
- (d) Goods are purchased one month before the month in which these are to be sold.
- (e) The company procures goods through a combination of cash and credit, with cash purchases comprising 40% of the total purchases. Half of the credit purchases are paid within the same month of

purchase, while the remaining 50% is settled in the subsequent month.

- (f) The fourth installment of advance tax, amounting to ₹ 50,000, is due for payment by 15th March, 2025.
- (g) The opening cash in hand as on 1st February, 2025 stands at ₹ 60,000.

The projected sales figures are as follows:

Month	Sales (₹)
January, 2025	9,00,000
February, 2025	7,50,000
March, 2025	8,25,000
April, 2025	6,75,000
May, 2025	6,00,000

On the basis of above Case Scenario, you are required to answer the following MCQs:

- i. What is the net cash sales (after discount) for the month of February 2025?
 - (A) ₹ 2,42,500
 - (B) ₹ 2,50,000
 - (C) ₹ 2,66,750
 - (D) ₹ 2,75,000
- ii. What is the amount of total collection from debtors for the month of March 2025?
 - (A) ₹ 5,13,000
 - (B) ₹ 5,40,000
 - (C) ₹ 5,03,500
 - (D) ₹ 5,30,000

- iii. What is the amount of credit purchases for the month of February 2025?
- (A) ₹ 3,60,000
(B) ₹ 3,96,000
(C) ₹ 3,24,000
(D) ₹ 4,95,000
- iv. What is the amount of payment to creditors for the month of March 2025?
- (A) ₹ 3,42,000
(B) ₹ 3,78,000
(C) ₹ 3,60,000
(D) ₹ 4,50,000
- v. What is the amount of closing cash in hand as on 31st March, 2025?
- (A) ₹ 3,61,250
(B) ₹ 3,71,250
(C) ₹ 3,23,250
(D) ₹ 2,00,500
2. White Kollars Pvt. Ltd. is a company engaged solely in the manufacture of shirts, which are bought mainly by office goers. Currently, the company sells its products directly to the retailers. In the recent years, sales has steadily declined due to rising competition. The forecast for next year suggests that the current decline in profits is expected to persist.
- The management believes that a profit of ₹ 60,00,000 is necessary to ensure an adequate return on capital. Thus, it asked the marketing director to review the marketing policies.
- Now, the marketing director submits the following profit and loss account for the last year along with 3 proposals available with him:

(Amount in '000)

Particulars	(₹)	(₹)	(₹)
Sales revenue (50,000 shirts at ₹ 1,500 each)			75,000
Factory cost of goods sold:			
Direct materials	7,500		
Direct labour	26,250		
Variable factory overheads	4,500		
Fixed factory overheads	16,500	54,750	
Fixed Administration overhead		10,500	
Selling and distribution overhead:			
Sales commission (2% of sales)	1,500		
Delivery costs (variable per unit sold)	3,750		
Fixed costs	3,000	8,250	73,500
Profit			1,500

Proposals for upcoming year:

- (i) 10% reduction in selling price which may increase demand by 40%.
- (ii) Selling of 25,000 units to eFlip, an online platform selling products directly to consumers, at a particular price. eFlip would transport the shirts from White Kollars Pvt. Ltd. to its own warehouse. Thus, abolishing the delivery costs and sales commission to be paid for each sale by White Kollars Pvt. Ltd. However, if a suitable price is negotiated, White Kollars Pvt. Ltd. would contribute ₹ 45,00,000 annually towards the online order catalogue cost and provide special packaging at ₹ 75 per shirt.

Remaining units of 25,000 would continue to be sold at ₹ 1,500 each as per existing business.
- (iii) 10% price reduction together with an advertising campaign costing ₹ 22,50,000 which may boost sales by 60%.

From the information given above, you are required to FIGURE OUT the following for managerial decision:

- i. P/V ratio and Break-even sales (in value) based on the last year accounts would be-
 - (A) 40%, ₹ 7,14,28,571
 - (B) 42%, ₹ 7,14,28,571
 - (C) 40%, ₹ 7,50,00,000
 - (D) 42%, ₹ 7,50,00,000
- ii. Profit/ (Loss) from proposal (i) would be:
 - (A) ₹ 3,38,10,000
 - (B) ₹ 3,00,00,000
 - (C) ₹ 38,10,000
 - (D) ₹ 30,00,000
- iii. With respect to proposal (i), how many number of units White Kollars Pvt. Ltd. would need to sell at ₹ 1,350 each to earn a desired profit of ₹ 60,00,000?
 - (A) 75,000 units
 - (B) 74,534 units
 - (C) 62,112 units
 - (D) 47,619 units
- iv. With respect to proposal (ii), how much selling price per unit be offered to eFlip, that would at least break even on this proposal?
 - (A) ₹ 180
 - (B) ₹ 660
 - (C) ₹ 840
 - (D) ₹ 1,020
- v. Profit/ (Loss) from proposal (iii) would be:
 - (A) ₹ 63,90,000

- (B) ₹ 86,40,000
- (C) ₹ 81,00,000
- (D) (₹ 81,00,000)

3. In two consecutive quarters, a company reported the following performance:

Quarter 1 sales were ₹ 2,10,000 with a profit of ₹ 12,000, while Quarter 2 sales rose to ₹ 2,40,000 with a profit of ₹ 24,000. Assume that the fixed cost remained constant across both quarters and that the company did not introduce any new product lines.

Based on the above information, the P/V ratio must be:

- (A) 20%
- (B) 30%
- (C) 40%
- (D) 50%

4. In a chemical processing unit, materials are added at the beginning of the process. During the month, the department reported 9,200 equivalent units of production (EUP) under the FIFO method.

The process had an opening WIP of 800 units, which were 50% complete, and a closing WIP of 900 units, which were 70% complete with respect to conversion costs.

During the month, the plant also faced a minor machine breakdown, but it did not affect the material input, only the processing speed.

Based on the above information, the number of units completed during the month was:

- (A) 9,100
- (B) 8,970
- (C) 8,450
- (D) 8,650

5. In a manufacturing enterprise, two joint products, X and Y, emerge simultaneously from a common production process. The company incurs joint costs up to the split-off point, after which the products become separately identifiable. For the previous month, the following details relating to production and inventory are available:

Product	Sales (units)	Finished Goods – Opening Stock (units)	Finished Goods – Closing Stock (units)
X	96,000	2,400	6,000
Y	64,000	4,800	2,400

The total joint production cost incurred during the month amounted to ₹ 18,60,000. These joint costs are apportioned between products X and Y in proportion to the number of units produced.

Required:

Determine the amount of joint production cost to be allocated to Product X for the month.

- (A) ₹ 10,23,000
 (B) ₹ 11,49,230
 (C) ₹ 10,71,000
 (D) ₹ 11,16,000

PART - II Descriptive Questions

Material Cost

6. Hari Udyog is a small-scale manufacturing unit producing a single product X using two raw materials PK and BK in the input ratio of 3 : 2. The input-output ratio in production is 5 : 3.

Raw material PK is perishable and becomes obsolete if not used within 5 days of purchase, whereas raw material BK is durable and can be stored for more than one year. Material PK is procured locally with a lead time of 1 to 2 days, while material BK is purchased from a neighbouring state and takes 2 to 4 days to reach the factory.

The estimated sales volume for April 2025 is 30,000 kg, and the same level of sales is expected to continue throughout the year. The company operates for 25 days a month, and production is carried out evenly.

The purchase price per kilogram (excluding taxes) is ₹ 15 for material PK and ₹ 22 for material BK. To place an order, the company incurs an administrative cost of ₹ 120 per order. The annual carrying cost is estimated at 15% of the value for material PK and 5% for material BK.

Currently, material PK is purchased in lots of 8,000 kg to avail a 10% trade discount on the market price. GST at 5% is applicable on material PK, for which input tax credit is available. Material BK is subject to 2% CST, for which no input tax credit is available.

You are required to calculate:

- (i) Economic Order Quantity (EOQ) for each material;
- (ii) Maximum stock level for Material PK;
- (iii) Calculate saving/ loss in Material PK if purchase quantity equals to EOQ.

Employee Cost

7. Rivaan Industries manufactures and sells wooden study tables. The demand for these tables has been steadily increasing due to the company's strong distribution network and reputation for durable products. Despite the rising market potential, the company continues to rely on its long-established wage practices. At present, Rivaan Industries pays wages under a piece-rate system, with a standard piece rate of ₹ 18 per table produced.

The company policy for payment under the piece-rate system is as follows:

- For efficiency less than 100%:
Workers are paid 80% of the standard piece rate
- For efficiency equal to or more than 100%:
Workers are paid 125% of the standard piece rate

The standard output per hour is 3 tables.

Each worker works 9 hours per day from Monday to Friday and 4 hours on Saturday.

A total of 132 workers are currently eligible for this wage plan.

However, the cutting and finishing machines used in production were purchased many years ago and now limit workers' efficiency. As a result, workers have demanded a shift to a time-rate wage system at ₹65 per hour, along with incentives under the Halsey Premium Plan (50% sharing of time saved).

To evaluate the financial impact, the management has prepared the following estimated production levels for January 2026 under three different scenarios:

Production Estimates (January 2026)

Scenario	Worst Case	Optimal Case	Best Case
Production (units)	36,900	73,800	1,10,700

In addition, the company is assessing a potential Technology Upgrade Case involving partial automation, which may influence both output levels and worker productivity.

Required:

- (a) Compute the Total wages, and Average wages per worker per month, for all four scenarios (Worst, Optimal, Best, and Technology Upgrade Case) under each of the following wage systems:
 - (i) Current piece-rate wage system (based on differential piece rates)
 - (ii) Workers' proposed system: Time-rate wages @ ₹ 65 per hour + Halsey Premium (50%)
- (b) Mr. R, one of the workers, produced 900 tables in December 2025. If he produces the same number of tables in January 2026, compute:
 - His earnings under the current piece-rate system
 - His earnings under the proposed time-rate + Halsey incentive system

- The difference in his earnings

Based on your computation, should Mr. R support the workers' demand?

(Assume 4 working weeks in a month.)

Overheads: Absorption Costing method

8. Omega Engineering Pvt. Ltd., a company manufacturing precision components for the automotive sector, operates three major CNC machines in its machining department—Machines X, Y, and Z. Due to a surge in customer demand and rising input costs, the company plans to revise its predetermined machine hour rates for the next financial year. The management has provided the following annual cost data for the three machines:

Preliminary Estimates of Annual Expenses

Particulars	Total (₹)	Machines		
		X (₹)	Y (₹)	Z (₹)
Depreciation	3,00,000	1,20,000	1,00,000	80,000
Spare parts	1,50,000	60,000	50,000	40,000
Power	5,50,000	—	—	—
Consumable stores	1,20,000	50,000	40,000	30,000
Insurance of machinery	1,00,000	—	—	—
Indirect labour	2,40,000	—	—	—
Building maintenance	2,50,000	—	—	—
Annual interest on capital outlay	1,20,000	50,000	40,000	30,000

Additional monthly information:

- Rent & rates: ₹ 30,000 per month
- Salary of Production Supervisor: ₹ 60,000 per month
- Salary of Machine Operator: ₹ 18,000 per month

The supervisor and operator oversee all three machines and spend equal time on each.

The following additional information is also available:

Machine	Estimated Direct Labour Hours	K.W. Rating Ratio	Floor Space (sq. ft.)
X	1,20,000	4	50,000
Y	1,60,000	3	40,000
Z	1,40,000	2	30,000

Working Conditions

- The plant operates 8 hours per day.
- Saturdays are half-days.
- There are 15 holidays besides Sundays, of which 3 fall on Saturdays.
- Machines run at 92% capacity.
- A 3% allowance for breakdown is considered reasonable.

Management expects the following increases for the coming financial year:

1. 10% increase in spare parts prices.
2. 30% increase in spare parts consumption for Machines Y & Z only.

You are required to :

CALCULATE the predetermined machine hour rates for Machines X, Y, and Z after incorporating all the revisions.

Activity Based Costing

9. A XYZ company supplies and maintains a range of printers for business customers. The sales department is responsible for selling the printers and related consumables such as ink and paper. The service department provides after-sales support, including routine preventive maintenance and repair services in the event of equipment breakdown. Customers are charged a fee per print, and this rate varies depending on the type and capacity of the printer.

There is one customer per machine.

The company's existing cost system uses a single overhead rate, based on total sales revenue from print charges, to charge the cost of the service department's support activities to each type of printer.

The service manager has suggested that the print charge should more accurately reflect the costs involved. The company's accountant has decided to implement an activity-based costing (ABC) system and has obtained the following information about the support activities of the service department:

Activity	Cost driver	Overheads per annum ₹ 000
Customer account handling	No. of Customers	126
Planned maintenance Scheduling	No. of planned maintenance visit	480
Unplanned maintenance scheduling	No. of unplanned maintenance visit	147
Spare part procurement	No. of purchase orders	243
Other overheads	No. of machines	600
Total overheads		1,596

The following data have also been collected for each machine size:

	Desktop Inkjet Printers	Office Laser Printers	High-Volume Production colour Printers
Charge per copy	₹ 0.03	₹ 0.04	₹ 0.05
Average number of copies per year per machine	60,000	1,20,000	1,80,000
Number of machines	300	800	500
Planned maintenance visits per machine per year	4	6	12

Unplanned maintenance visits per machine per year	1	1	2
Total number of purchase orders per year	500	1,200	1,000
Cost of parts per maintenance visit	₹ 100	₹ 300	₹ 400
Labour cost per maintenance visit	₹ 60	₹ 80	₹ 100

- Calculate the annual profit per machine for each of the three sizes of machine, using the current basis for charging the costs of support activities to machines.
- Calculate the annual profit per machine for each of the three sizes of machine using activity-based costing (ABC).
- Explain the potential benefits to the company of using an activity-based costing system.

Cost Sheet

- Following information is available from the books of YSPP Ltd. for the current year ending 31st March:

S. No.	Particulars	(₹)	(₹)
(i)	Raw materials purchased		35,00,00,000
(ii)	Freight inwards		39,22,100
(iii)	Wages paid to factory workers		1,02,20,000
(iv)	Contribution made towards employees' PF & ESIS		12,60,000
(v)	Hire charges paid for hiring specific equipment		8,40,000
(vi)	Amount paid for power & fuel		16,17,000
(vii)	Amount paid for purchase of moulds and patterns (life is equivalent to four years production)		31,36,000

(viii)	Job charges paid to job workers		28,42,000
(ix)	Lease rent paid for production assets		3,92,000
(x)	Depreciation on:		
	Factory building	2,94,000	
	Office building	1,96,000	
	Plant & Machinery	4,41,000	
	Delivery vehicles	3,01,000	12,32,000
(xi)	Salary paid to supervisors		4,41,000
(xii)	Repairs & Maintenance paid for:	1,68,000	
	Plant & Machinery		
	Sales office building	63,000	2,31,000
(xiii)	Insurance premium paid for:		
	Plant & Machinery	1,09,200	
	Factory building	63,350	
	Stock of raw materials & WIP	1,26,000	2,98,550
(xiv)	Expenses paid for quality control check activities		68,600
(xv)	Salary paid to quality control staffs		3,36,700
(xvi)	Research & development cost paid for improvement in production process		63,700
(xvii)	Expenses paid for administration of factory work		4,15,100
(xviii)	Salary paid to functional managers:		
	Production control	33,60,000	
	Finance & Accounts	32,13,000	
	Sales & Marketing	35,42,000	1,01,15,000
(xix)	Salary paid to General Manager		43,96,000
(xx)	Packing cost paid for:		
	Primary packing necessary to maintain quality	3,36,000	

	For re-distribution of finished goods	3,92,000	7,28,000
(xxi)	Fee paid to auditors		6,30,000
(xxii)	Fee paid to independent directors		7,70,000
(xxiii)	Value of stock as on 1 st April (beginning):		
	Raw materials	63,00,000	
	Work-in-process	32,20,000	
	Finished goods	38,50,000	1,33,70,000
(xxiv)	Value of stock as on 31 st March (ending):		
	Raw materials	33,60,000	
	Work-in-process	30,45,000	
	Finished goods	63,00,000	1,27,05,000

Due to delay in picking up cargo from the port, YSPP Ltd. had to pay ₹ 15,000 as demurrage in the month of March.

From the above data you are required to PREPARE Statement of cost for YSPP Ltd. for the year ended 31st March, showing (i) Prime cost, (ii) Factory cost, (iii) Cost of Production, (iv) Cost of sales.

Cost Accounting Systems

11. The following figures have been extracted from the cost records of a manufacturing unit:

	(₹)
Stores: Opening balance	32,000
Purchases of material	1,58,000
Transfer from work-in-progress	80,000
Issues to work-in-progress	1,60,000
Issues to repair and maintenance	20,000
Deficiencies found in stock taking	6,000
Work-in-progress: Opening balance	60,000

Direct wages applied	65,000
Overheads applied	2,40,000
Closing balance of W.I.P.	45,000

Finished products: Entire output is sold at a profit of 10% on actual cost from work-in-progress. Wages incurred ₹ 70,000, overhead incurred ₹ 2,50,000.

Items not included in cost records: Income from investment ₹ 10,000, Loss on sale of capital assets ₹ 20,000.

Draw up Store Control account, Work-in-progress Control account, Costing Profit and Loss account, Profit and Loss account and Reconciliation statement.

Job & Batch Costing

12. Analysis of costs by behaviour for decision-making. The Northshire Hospital Trust operates two types of specialist X-ray scanning machine, XR1 and XR50. Details for the next period are estimated as follows:

Machine	XR1	XR50
Running hours	1,100	2,000
	(₹)	(₹)
Variable running costs (excluding plates)	27,500	64,000
Fixed costs	20,000	97,500

A brain scan is normally carried out on machine type XR1: this task uses special X-ray plates costing ₹40 each and takes four hours of machine time. Because of the nature of the process, around 10 per cent of the scans produce blurred and therefore useless results.

Required:

- (a) Calculate the cost of a satisfactory brain scan on machine type XR1.

- (b) Brain scans can also be done on machine type XR50 and would take only 1.8 hours per scan with a reduced reject rate of 6 per cent. However, the cost of the X-ray plates would be ₹ 55 per scan.

Required:

ADVISE which type should be used, assuming sufficient capacity is available on both types of machines.

Process Costing

13. A Company produces a component, which passes through two processes. During the month of April, 2025, materials for 40,000 components were put into Process I of which 30,000 were completed and transferred to Process II. Those not transferred to Process II were 100% complete as to materials cost and 50% complete as to labour and overheads cost. The Process I costs incurred were as follows:

Direct Materials	₹ 15,000
Direct Wages	₹ 18,000
Factory Overheads	₹ 12,000

Of those transferred to Process II, 28,000 units were completed and transferred to finished goods stores. There was a normal loss with no salvage value of 200 units in Process II. There were 1,800 units, remained unfinished in the process with 100% complete as to materials and 25% complete as regard to wages and overheads.

No further process material costs occur after introduction at the first process until the end of the second process, when protective packing is applied to the completed components. The process and packing costs incurred at the end of the Process II were:

Packing Materials	₹ 4,000
Direct Wages	₹ 3,500
Factory Overheads	₹ 4,500

Required:

- (i) PREPARE Statement of Equivalent Production, Cost per unit and Process I A/c.
- (ii) PREPARE statement of Equivalent Production, Cost per unit and Process II A/c.

Joint Product and By-Product

14. ABC Ltd. operates a simple chemical process to convert a single material into three separate items, referred to here as X, Y and Z. All three end products are separated simultaneously at a single split-off point.

Product X and Y are ready for sale immediately upon split off without further processing or any other additional costs. Product Z, however, is processed further before being sold. There is no available market price for Z at the split-off point.

The selling prices quoted here are expected to remain the same in the coming year. During 2024-25, the selling prices of the items and the total amounts sold were:

X – 186 tons sold for ₹ 3,000 per ton

Y – 527 tons sold for ₹ 2,250 per ton

Z – 736 tons sold for ₹ 1,500 per ton

The total joint manufacturing costs for the year were ₹ 12,50,000. An additional ₹ 6,20,000 was spent to finish product Z.

There were no opening inventories of X, Y or Z at the end of the year. The following inventories of complete units were on hand:

X 180 tons

Y 60 Tons

Z 25 tons

There was no opening or closing work-in-progress.

Required:

COMPUTE the cost of inventories of X, Y and Z and cost of goods sold for year ended March 31, 2025, using Net realizable value (NRV) method of joint cost allocation.

Standard Costing

15. BabyMoon Ltd. uses standard costing system in manufacturing one of its product 'Baby Cap'. The details are as follows:

Direct Material 1 Meter @ ₹ 60 per meter	₹ 60
Direct Labour 2 hour @ ₹ 20 per hour	₹ 40
Variable overhead 2 hour @ ₹ 10 per hour	₹ <u>20</u>
Total	₹ <u>120</u>

During the month of August, 10,000 units of 'Baby Cap' were manufactured. Details are as follows:

Direct material consumed	11,400 meters @ ₹ 58 per meter
Direct labour Hours	? @ ? ₹ 4,48,800
Variable overhead incurred	₹ 2,24,400

Variable overhead efficiency variance is ₹ 4,000 A. Variable overheads are based on Direct Labour Hours.

You are required to CALCULATE the following Variances:

- Material Variances- Material Cost Variance, Material Price Variance and Material Usage Variance.
- Variable Overheads variances- Variable overhead Cost Variance, Variable overhead Efficiency Variance and Variable overhead Expenditure Variance.
- Labour variances- Labour Cost Variance, Labour Rate Variance and Labour Efficiency Variance.

Service Costing

16. Fit'n'fine Ltd. runs a fitness club in Delhi. It offers three types of membership plans: Bronze, Silver, and Gold.

The club is using a traditional costing system with the following information:

Cost Information

Description	Amount (in ₹)
Rent	1,00,000 per month
Gym equipments	30,00,000 (service life 5 years)
Licenses & Permits	86,000 (renewed in every six month)
Insurance	12,000 per annum
Salary to the instructors	7,48,000 per annum
Utilities	75,000 per quarter
Cleaning supplies	1,44,000 per annum
AMC of equipments & machinery	1,20,000 per month
Marketing expenses	3,00,000 per annum
Electricity expenses @ ₹ 14 per unit	April to July – 60 units per hour August to March – 25 units per hour

Membership Details

Type of Members	Club Access time	Occupancy % (April to July)	Occupancy % (August to March)
Gold	5.00 AM to 9.00 AM	100%	80%
Silver	6.00 PM to 9.00 PM	70%	50%
Bronze	9.00 AM to 6.00 PM	50%	30%

The maximum capacity of the fitness club is 200 persons in any time slot. The membership fee per month for Gold members is to be fixed at 1.5 times of the Silver membership and that of Silver membership as twice of the Bronze membership fee after providing profit @ 25% on membership fees. The club opens 25 days in a month.

You are required to calculate the membership fee per month to be charged by the club for each member type.

Miscellaneous

17. (a) A manufacturing firm is planning to introduce a new product while simultaneously considering changes in its production methods, advertising budget, and investment plans. As the management accountant, you are required to advise the management on how different types of costs should be treated for effective decision-making. Explain how pre-determined cost, Differential Cost, product cost, out-of-pocket cost, shutdown cost, sunk cost, and implicit cost would influence managerial decisions in this scenario.
- (b) A furniture manufacturing company produces wooden tables. During production in June, the supervisor reports two issues:
- Some wooden pieces get completely damaged during cutting and can only be sold as low-value waste.
 - A few finished tables have minor defects like rough edges or uneven legs, which can be corrected with extra labour and polishing.

As the cost accountant, explain:

1. How scrap differs from defective products in this scenario.
2. accounting treatment of scrap and defectives in the cost accounts.


SUGGESTED ANSWERS

1. (i) (A): ₹ 2,42,500
 (ii) (D): ₹ 5,30,000
 (iii) (B): ₹ 3,96,000
 (iv) (C): ₹ 3,60,000
 (v) (B): ₹ 3,17,750

Working Note No. 1: Calculation of Sales

Credit Sales = Twice of cash sales

If Cash sales = X, then Credit sales = 2X

Total sales = X + 2X = 3X

Cash Sales = Total Sales / 3

Credit Sales = 2/3 of Total Sales (In ₹)

Sales	January 2025	February 2025	March 2025	April 2025
Total Sales	9,00,000	7,50,000	8,25,000	6,75,000
Cash Sales	3,00,000	2,50,000	2,75,000	2,25,000
Discount @3%	9,000	7,500	8,250	6,750
Net Cash Sales	2,91,000	2,42,500	2,66,750	2,18,250
Credit Sales	6,00,000	5,00,000	5,50,000	4,50,000

Working Note No. 2: Collection from Debtors

60% of credit sales are collected in the same month

40% of credit sales are collected in the following month

- Current Month Collection = 60% of Credit Sales
- Next Month Collection = 40% of Previous Month's Credit Sales

(In ₹)

Particulars	January 2025	February 2025	March 2025
Credit Sales	6,00,000	5,00,000	5,50,000
60% of credit sale (same month)	3,60,000	3,00,000	3,30,000
40% next month	—	2,40,000	2,00,000
Total Collection	—	5,40,000	5,30,000

Working Note No. 3: Calculation of Purchases

Selling price includes a 20% profit margin on selling price.

Goods are purchased one month before sale.

For sales of February 2025, goods were purchased in January 2025.

Sales for February 2025 = ₹ 7,50,000

Purchases for January 2025 = 80% of Sales

= ₹ 7,50,000 × 80% = ₹ 6,00,000 (In ₹)

Particulars	January 2025	February 2025	March 2025
Purchases	6,00,000	6,60,000	5,40,000
Cash Purchases (40%)	2,40,000	2,64,000	2,16,000
Credit Purchases	3,60,000	3,96,000	3,24,000

Working Note No. 4: Payment to Creditors (In ₹)

Particulars	January 2025	February 2025	March 2025
Credit Purchases	3,60,000	3,96,000	3,24,000
Payment–Same Month @50%	1,80,000	1,98,000	1,62,000
Balance Next Month @50%		1,80,000	1,98,000
Payment to Creditors		3,78,000	3,60,000

Working Note No. 5: Cash Budget (In ₹)

Particulars	February 2025	March 2025
Receipts		
Opening Cash in Hand	60,000	2,00,500
Net Cash Sales (W.N.1)	2,42,500	2,66,750
Collection from Debtors (W.N.2)	<u>5,40,000</u>	<u>5,30,000</u>
Total Receipts (A)	8,42,500	9,97,250
Payments		
Cash Purchases (W.N.3)	2,64,000	2,16,000
Payment to Creditors (W.N.4)	3,78,000	3,60,000
Advance Income Tax	–	50,000
Total Payments (B)	<u>6,42,000</u>	<u>6,26,000</u>
Closing Cash in Hand (A – B)	2,00,500	3,71,250

2. (i) (B) 42%, ₹ 7,14,28,571

Calculation of Contribution:

(Amount in '000)

Particulars	(₹)	(₹)
Sales revenue (50,000 shirts at ₹ 1,500 each)		75,000
Less: Variable costs-		
Direct materials	7,500	
Direct labour	26,250	
Variable factory overheads	4,500	
Sales commission (2% of sales)	1,500	
Delivery costs (variable per unit sold)	3,750	43,500
Contribution		31,500

Calculation of Fixed Costs:

(Amount in '000)

Particulars	(₹)
Fixed factory overheads	16,500
Administration overhead	10,500
Selling and distribution overhead:	
Fixed costs	3,000
Total Fixed Costs	30,000

$$\begin{aligned}
 \text{P/V ratio} &= \frac{\text{Contribution}}{\text{Sales}} \times 100 \\
 &= \frac{\text{₹ } 31,500}{\text{₹ } 75,000} \times 100 \\
 &= 42\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Break even sales value} &= \frac{\text{Fixed Cost}}{\text{P/V ratio}} \\
 &= \frac{\text{₹ } 3,00,00,000}{42\%} \\
 &= \text{₹ } 7,14,28,571
 \end{aligned}$$

(ii) (C) ₹ 38,10,000

Particulars	(₹)	(₹)
Revised selling price (₹ 1,500 - 10%)		1,350
Less: variable costs-		
Direct materials	150	
Direct labour	525	
Variable overhead	90	
Delivery expenses	75	
Sales commission (2% of selling price)	27	867
Contribution per unit		483
Number of units sold		70,000
Total contribution (70,000 units x 483) (A)		3,38,10,000
Fixed costs (B)		3,00,00,000
Profit from proposal (i) (A - B)		38,10,000

(iii) (B) 74,534 units

We know that,

$$\text{Sales} \times \text{P/V Ratio} = \text{Fixed Cost} + \text{Profit}$$

$$\text{Or, } (\text{₹ } 1,350 \times \text{required no. of units}) \times \frac{\text{Contribution}}{\text{Sales}}$$

$$= \text{Fixed Cost} + \text{Profit}$$

$$\text{Or, } (\text{₹ } 1,350 \times \text{required no. of units}) \times \frac{\text{₹ } 483 \text{ per unit}}{\text{₹ } 1,350 \text{ per unit}}$$

$$= \text{₹ } 3,00,00,000 + \text{₹ } 60,00,000$$

$$\text{Therefore, required no. of units} = \frac{\text{₹ } 3,60,00,000}{\text{₹ } 483}$$

$$= 74,534 \text{ units}$$

(iv) (D) ₹ 1,020

The variable cost of selling to eFlip is:

Particulars	(₹)
Direct material	150
Direct labour	525
Variable overhead	90
Delivery expenses	-
Sales commission	-
Additional package cost	75
	840

$$\text{Break-even Point} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

$$25,000 \text{ units} = \frac{₹ 45,00,000}{\text{Contribution per unit}}$$

$$\text{Contribution per unit} = ₹ 180$$

$$\text{Selling Price at Break-even Point} = \text{Variable cost} + \text{Contribution}$$

$$= ₹ 840 + ₹ 180$$

$$= ₹ 1,020 \text{ per unit}$$

(v) (A) ₹ 63,90,000

Particulars	(₹)
Contribution per unit (similar to Proposal (i))	483
Number of units sold	80,000
Total contribution (80,000 units x 483) (A)	3,86,40,000
Fixed costs (₹ 3,00,00,000 + ₹ 22,50,000) (B)	3,22,50,000
Profit from proposal (iii) (A - B)	63,90,000

3. (C) 40%

$$\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}}$$

For Quarter I

Sales = ₹ 2,10,000

Profit = ₹ 12,000

$F + 12,000 = C \times 2,10,000$

For Quarter II

Sales = ₹ 2,40,000

Profit = ₹ 24,000

$F + 24,000 = C \times 2,40,000$

OR

Change in Profit / Change in Sales gives P/V Ratio

$$\text{P/V Ratio} = \frac{\text{Change in Profit}}{\text{Change in Sales}}$$

$$= \frac{24,000 - 12,000}{2,40,000 - 2,10,000}$$

$$= \frac{12,000}{30,000}$$

$$= 0.40$$

4. (B) 8,970

Statement of Equivalent Production Units (Under FIFO Method)

Particulars	Output units	Equivalent Production	
		(%)	Equivalent units
From opening W-I-P	800	50	400
Units Started & Completed	X-800	100	X-800
Units completed (Transferred to next process)	X		-
Closing W-I-P	900	70	630
	Y		9,200

$$X - 800 + 1030 = 9,200$$

$$X + 230 = 9,200$$

$$X = 8,970$$

5. (B) ₹ 11,49,230

Joint Production Cost = ₹ 18,60,000

Product	Sales (units) (A)	Finished Goods (units) Opening stock (B)	Finished Goods (units) Closing stock (C)	Production (units) (D) = (A) + (C) - (B)
X	96,000	2,400	6,000	99,600
Y	64,000	4,800	2,400	61,600
Total				1,61,200

Apportionment of Joint Production Cost to Product X:

$$= \left(\frac{99,600 \text{ units}}{1,61,200 \text{ units}} \times ₹ 18,60,000 \right)$$

$$= ₹ 11,49,230$$

6. **Workings:**

$$\text{Monthly Production of X} = 30,000 \text{ kgs.}$$

$$\text{Raw Material Required} = \frac{30,000}{3} \times 5 = 50,000 \text{ kgs.}$$

$$\text{Material PK} = \frac{50,000}{5} \times 3 = 30,000 \text{ kg.}$$

$$\text{Material BK} = \frac{50,000}{5} \times 2 = 20,000 \text{ kg.}$$

(i) **Calculation of Economic Order Quantity (EOQ):**

$$\text{Material PK} = \sqrt{\frac{2 \times \text{Annual consumption} \times \text{Order cost}}{\text{Carrying cost per unit p.a.}}}$$

$$\begin{aligned}
 &= \sqrt{\frac{2 \times (30,000 \text{ kg.} \times 12 \text{ months}) \times ₹ 120}{(15\% \text{ of } ₹ 15)}} \\
 &= \sqrt{\frac{8,64,00,000}{2.25}} = 6,196.77 \text{ kg. or } 6,197 \text{ kg.} \\
 \text{Material BK} &= \sqrt{\frac{2 \times (20,000 \text{ kg.} \times 12 \text{ months}) \times ₹ 120}{(5\% \text{ of } ₹ 22.44^*)}} \\
 &= \sqrt{\frac{5,76,00,000}{1.122}} = 7,164.97 \text{ or } 7,165 \text{ kg.}
 \end{aligned}$$

*Purchase price + 2% CST = ₹ 22 + 2% of ₹ 22 = ₹ 22.44

(ii) **Calculation of Maximum Stock level: Since, the Material PK is perishable in nature and it required to be used within 5 days, hence, the Maximum Stock Level shall be lower of two:**

(a) Stock equal to 5 days consumption

$$= \frac{30,000 \text{ kg.}}{25 \text{ days}} \times 5 \text{ days} = 6,000 \text{ kg.}$$

(a) Maximum Stock Level for Material PK:

Re-order Quantity + Re-order level – (Min consumption* × Min. lead time)

Where, Re-order Quantity = 8,000 kg.

$$\begin{aligned}
 \text{Re-order level} &= \text{Max. Consumption}^* \times \text{Max. Lead time} \\
 &= 30,000/25 \times 2 \text{ days} = 2,400 \text{ kg.}
 \end{aligned}$$

$$\text{Maximum stock Level} = 8,000 \text{ kg.} + 2,400 \text{ kg.} - (30,000/25 \times 1 \text{ day})$$

$$= 10,400 - 1,200 = 9,200 \text{ kg.}$$

Stock required for 5 days consumption is lower than the maximum stock level calculated through the formula. Therefore, Maximum Stock Level will be 6,000 kg.

(*Since, production is processed evenly throughout the month hence material consumption will also be even.)

(iii) Calculation of Savings/ loss in Material PK if purchase quantity equals to EOQ.

	Purchase Quantity = 8,000 kg.	Purchase Quantity = EOQ i.e. 6,197 kg.
Annual consumption	3,60,000 kg. (30,000 × 12 months)	3,60,000 kg. (30,000 × 12 months)
No. of orders [Note- (i)]	60 (3,60,000 ÷ 6,000)	60 (3,60,000 ÷ 6,000)
Ordering Cost (a)	₹ 7,200 (₹ 120 × 60)	₹ 7,200 (₹ 120 × 60)
Carrying Cost (b) [Note- (ii)]	₹ 8,100 (15% of ₹ 13.50 × 4,000)	₹ 6,972 (15% of ₹ 15 × 3,098.5)
Purchase Cost (c) (for good portion)	₹ 48,60,000 (₹ 13.50 × 3,60,000)	₹ 54,00,000 (₹ 15 × 3,60,000)
Loss due to obsolescence (d) [Note- (iii)]	₹ 16,20,000 [₹ 13.5 × (60 × 2,000)]	₹ 1,77,300 [₹ 15 × (60 × 197)]
Total Cost [(a) + (b) + (c) + (d)]	₹ 64,95,300	₹ 55,91,472

If purchase quantity equals to EOQ, there will be a saving of ₹ 9,03,828 i.e. ₹ 64,95,300 - ₹ 55,91,472.

Notes: (i) As after 5 days of purchase the Material PK gets obsolete, the quantity in excess of 5 days consumption i.e. 6,000 kg. are wasted. Hence, after 6,000 kg. a fresh order needs to be given.

(ii) Carrying cost is incurred on average stock of Materials purchased.

(iii) the excess quantity of material gets obsolete and loss has to be incurred.

7. (a) Calculation of Total wages and average wages per worker per month.

(i) When Current system of wages and incentive payment system is followed:

Standard Production per Month

Standard production per worker = 196 hours × 3 units = 588 units

Standard production for 132 workers = 588 × 132 = 77,616 units

Particulars	Worst Case	Optimal Case	Best Case
I. Standard Production (units) (588 units × 132 workers)	77,616	77,616	77,616
II. Actual Production (units)	36,900	73,800	1,10,700
III. Efficiency (%) (II ÷ I × 100)	47.54%	95.08%	142.63%
IV. Applicable Piece Rate	₹ 14.40 (₹ 18 × 0.8)	₹ 14.40 (₹ 18 × 0.8)	₹ 22.50 (₹ 18 × 1.25)
V. Total Wages (II × IV)	₹ 5,31,360	₹ 10,62,720	₹ 24,90,750
VI. Average Wage per Worker (V ÷ 132)	₹ 4,025.45	₹ 8,050.91	₹ 18,869.32

(ii) When workers' demand for time rate wages and Halsey premium plan is accepted:

Particulars	Worst Case	Optimal Case	Best Case
I. Actual Production (units)	36,900	73,800	1,10,700
II. Standard Units per hour	3	3	3
III. Standard Hours Required (I ÷ II)	12,300	24,600	36,900
IV. Expected working hours (132 workers × 196 hrs.)	25,872	25,872	25,872
V. Time Saved (IV – III)	—	—	11,028
VI. Time Wages (IV × ₹ 65)	₹ 16,81,680	₹ 16,81,680	₹ 16,81,680

VII. Halsey Bonus (50% × Time Saved × 65)	—	—	₹ 3,58,410
VIII. Total Wages (VI + VII)	₹16,81,680	₹16,81,680	₹20,40,090
IX. Average Wage per Worker (VIII ÷ 132)	₹12,740	₹12,740	₹15,455.23

(b) Calculation of gain or loss in the current monthly income of Mr. R:

1. Under Current Piece-Rate System

Standard production = 588 units

Production in December = 900 units

Efficiency = $900 \div 588 \times 100 = 153.06\%$

Rate = ₹ 22.50

Total wages = $900 \times 22.50 = ₹ 20,250$

2. Under Proposed Time Rate + Halsey Plan

Standard hours = $900 \text{ units} \div 3 \text{ units} = 300 \text{ hours}$

Actual hours available = 196 hours

Time saved = $300 - 196 = 104 \text{ hrs}$,

Time wages = $196 \times ₹ 65 = ₹ 12,740$

Halsey Bonus (50% × Time Saved × 65)

= $104 \text{ hrs} \times 50\% \times 65 = ₹ 3,380$

Total expected wages = ₹ 16,120

3. Loss To Mr. R

Loss = $20,250 - 16,120 = ₹ 4,130$

Supporting the demand of colleague workers will cost ₹ 4,130 in the next month to Mr. R.

8. (a) Computation of Machine Hour Rate

(A) Standing Charges

Particulars	Basis of Apportionment	Total (₹)	Machine X (₹)	Machine Y (₹)	Machine Z (₹)
Insurance	Depreciation Basis (6:5:4)	1,00,000	40,000	33,333	26,667
Indirect Labour	Direct Labour Hours (6:8:7)	2,40,000	68,571	91,429	80,000
Building Maintenance	Floor Space (5:4:3)	2,50,000	1,04,167	83,333	62,500
Rent & Rates	Floor Space (5:4:3)	3,60,000	1,50,000	1,20,000	90,000
Salary of Supervisor	Equal	7,20,000	2,40,000	2,40,000	2,40,000
Salary of Operator	Equal	2,16,000	72,000	72,000	72,000
Total Standing Charges	—	—	6,74,738	6,40,095	5,71,167
Hourly Rate (Standing)	—	—	345.49	327.75	292.46

(B) Machine Expenses

Particulars	Basis of Apportionment	Total (₹)	Machine X (₹)	Machine Y (₹)	Machine Z (₹)
Depreciation	Direct	—	1,20,000	1,00,000	80,000
Spare Parts	Revised Estimates	—	66,000	71,500	57,200
Power	KW Rating (4:3:2)	5,50,000	2,44,444	1,83,333	1,22,222
Consumable Stores	Direct	1,20,000	50,000	40,000	30,000
Total Machine Expenses	—	—	4,80,444	3,94,833	2,89,422
Hourly Rate (Machine)	—	—	246.00	202.17	148.19

Total (A + B)

Machine	Machine Hour Rate (₹)
X	591.49
Y	529.92
Z	440.65

Working Notes:
(i) Calculation of effective working hours:

$$\begin{aligned}
 \text{No. of full off-days} &= \text{No. of Sunday} + \text{No. of holidays} \\
 &= 52 + 15 = 67 \text{ days} \\
 \text{No. of half working days} &= 52 \text{ days} - 3 \text{ holidays} = 49 \text{ days} \\
 \text{No. of full working days} &= 365 \text{ days} - 67 \text{ days} - 49 \text{ days} \\
 &= 249 \text{ days} \\
 \text{Total Working Hours} &= \{(249 \text{ days} \times 8 \text{ hours}) + (49 \text{ days} \times 4 \text{ hours})\} \\
 &= 1,992 + 196 \\
 &= 2,188 \text{ hours} \\
 \text{Effective Working Hours} &= \text{Total working hours} \times 92\% - 3\% \text{ for breakdown} \\
 &= 2,188 \times 92\% - 3\% \times (2,188 \times 92\%) \\
 &= 2,012.96 - 60.39 \\
 &= 1,953 \text{ hours}
 \end{aligned}$$

(ii) Amount of spare parts is calculated as under:

Machine	X	Y	Z
Preliminary estimates	60,000	50,000	40,000
Add: Increase in price @ 10%	6,000	5,000	4,000
	66,000	55,000	44,000
Add: Increase in consumption @ 30%	—	16,500	13,200
Estimated cost	66,000	71,500	57,200

(iii) Interest on capital outlay is a finance cost, therefore it has been excluded from the cost accounts.

9. (a) Calculation of single overhead rate based on sales revenue

	Desktop Inkjet Printers	Office Laser Printers	High-Volume Production colour Printers	Total
	₹	₹	₹	₹
Sales revenue	₹ 1,800 × 300 = ₹ 5,40,000	₹ 4,800 × 800 = ₹ 38,40,000	₹ 9,000 × 500 = ₹ 45,00,000	₹ 88,80,000
Overheads				₹ 15,96,000
Overheads/ Sales revenue				18%
Cost per machine	₹ 1,800 × 18% = ₹ 324	4,800 × 18% = ₹ 864	9,000 × 18% = ₹ 1,620	

(b) Profit per machine

	Desktop Inkjet Printers	Office Laser Printers	High-Volume Production colour Printers
	₹	₹	₹
Copy charge per machine	(60,000 × ₹ 0.03) 1,800	(1,20,000 × 0.04) 4,800	(180,000 × ₹ 0.05) 9,000
Cost of parts per machine	(₹ 100 × 5) (500)	(₹ 300 × 7) (2,100)	(₹ 400 × 14) (5,600)
Labour cost per machine	(₹ 60 × 5) (300)	(₹ 80 × 7) (560)	(₹ 100 × 14) (1,400)
Overhead cost	(324)	(864)	(1,620)
Profit per machine	676	1,276	380

Cost driver rates

Activity	Cost Driver	Overheads ₹ 000	No. of cost drivers	Cost per driver ₹
Customer account handling	Number of customers	126	300 + 800 + 500 = 1,600	₹79 per customers*

Planned maintenance scheduling	Number of planned maintenance visits	480	$(300 \times 4) + (800 \times 6) + (500 \times 12) = 12,000$	₹ 40 per planned maintenance visit
Unplanned maintenance scheduling	Number of unplanned maintenance visits	147	$(300 \times 1) + (800 \times 1) + (500 \times 2) = 2,100$	₹ 70 per unplanned maintenance visit
Spare part procurement	Number of purchase orders	243	$(500 + 1,200 + 1,000) = 2,700$	₹ 90 per purchase order
Other overheads	Number of machines	600	$(300 + 800 + 500) = 1,600$	₹ 375 per machine

*** Round off**

Overhead cost per machine

	Desktop Inkjet Printers	Office Laser Printers	High-Volume Production colour Printers
Customer account handling	= ₹ 79	= ₹ 79	= ₹ 79
Planned maintenance scheduling	$(₹ 40 \times 4) = ₹ 160$	$(₹ 40 \times 6) = ₹ 240$	$(₹ 40 \times 12) = ₹ 480$
Unplanned maintenance scheduling	$(₹ 70 \times 1) = ₹ 70$	$(₹ 70 \times 1) = ₹ 70$	$(₹ 70 \times 2) = ₹ 140$
Spare part procurement	$(₹ 90 \times 500/300) = ₹ 150$	$(₹ 90 \times 1,200/800) = ₹ 135$	$(₹ 90 \times 1,000/500) = ₹ 180$
Other overheads	₹ 375	₹ 375	₹ 375
Total overhead cost per machine	₹ 834	₹ 899	₹ 1,254

ABC profitability analysis

	Desktop Inkjet Printers	Office Laser Printers	High-Volume Production colour Printers
Copy charge per machine	1,800	4,800	9,000
Parts and labour per machine	(800)	(2,660)	(7,000)
Overhead cost per machine	(834)	(899)	(1,254)
Profit per machine using ABC	166	1,241	746

(c) The answer should include the following points:

- The generation of more accurate product/service costs resulting in improved decision-making;
- Improved cost management by focusing on activity cost management
- More accurate profitability analysis
- The implementation of ABC will enable the company to adopt activity-based budgeting

10.
Statement of Cost of YSPP Ltd.
for the year ended 31st March:

S. No.	Particulars	(₹)	(₹)
(I)	Material consumed:		
	Raw materials purchased	35,00,00,000	
	Freight inwards	39,22,100	
	Add: opening stock of raw materials	63,00,000	
	Less: closing stock of raw materials	(33,60,000)	35,68,62,100
(II)	Direct employee (labour) cost:		
	Wages paid to factory workers	1,02,20,000	

	Contribution made towards employees' PF & ESIS	12,60,000	1,14,80,000
(III)	Direct expenses:		
	Hire charges paid for hiring specific equipment	8,40,000	
	Amount paid for power & fuel	16,17,000	
	Amortised cost of moulds and patterns	7,84,000	
	Job charges paid to job workers	28,42,000	60,83,000
	Prime cost		37,44,25,100
(IV)	Works/ factory overheads:		
	Lease rent paid for production assets	3,92,000	
	Depreciation on factory building	2,94,000	
	Depreciation on plant & machinery	4,41,000	
	Repairs & maintenance paid for plant & machinery	1,68,000	
	Insurance premium paid for plant & machinery	1,09,200	
	Insurance premium paid for factory building	63,350	
	Insurance premium paid for stock of raw materials & WIP	1,26,000	
	Salary paid to supervisors	4,41,000	20,34,550
	Gross factory cost		37,64,59,650
	Add: opening value of w-i-p		32,20,000
	Less: closing value of w-i-p		(30,45,000)
	Factory cost		37,66,34,650

(V)	Quality control cost:		
	Expenses paid for quality control check activities	68,600	
	Salary paid to quality control staffs	3,36,700	4,05,300
(VI)	Research & development cost paid for improvement in production process		63,700
(VII)	Administration cost related with production:		
	- Expenses paid for administration of factory work	4,15,100	
	- Salary paid to production control manager	33,60,000	37,75,100
(VIII)	Add: primary packing cost		3,36,000
	Cost of production		38,12,14,750
	Add: opening stock of finished goods		38,50,000
	Less: closing stock of finished goods		(63,00,000)
	Cost of goods sold		37,87,64,750
(IX)	Administrative overheads:		
	Depreciation on office building	1,96,000	
	Salary paid to manager- finance & accounts	32,13,000	
	Salary paid to general manager	43,96,000	
	Fee paid to auditors	6,30,000	
	Fee paid to independent directors	7,70,000	92,05,000

(X)	Selling overheads:		
	Repairs & maintenance paid for sales office building	63,000	
	Salary paid to manager- sales & marketing	35,42,000	36,05,000
(XI)	Distribution overheads:		
	Depreciation on delivery vehicles	3,01,000	
(XII)	Packing cost paid for re-distribution of finished goods	3,92,000	6,93,000
	Cost of sales		39,22,67,750

Note: Demurrage is a type of penalty, thus will not form part of cost.

11. (A) Costing books

Stores Control Account

Particulars	(₹)	Particulars	(₹)
To Balance b/d	32,000	By W.I.P. Control A/c	1,60,000
To General ledger adjustment A/c	1,58,000	By Work overhead control A/c	20,000
To Work in progress control A/c	80,000	By Costing Profit and Loss A/c	6,000
		By Balance c/d	84,000
	2,70,000		2,70,000

W.I.P. Control Account

Particulars	(₹)	Particulars	(₹)
To Balance b/d	60,000	By Stores control A/c	80,000
To Stores control A/c	1,60,000	By Costing profit and loss A/c (Cost of sales)	4,00,000
To Direct wages control A/c	65,000		

To Works overhead control A/c	2,40,000	By Balance c/d	45,000
	5,25,000		5,25,000

Works Overhead Control Account

Particulars	(₹)	Particulars	(₹)
To General ledger adjustment A/c	2,50,000	By W.I.P. Control A/c	2,40,000
To Store ledger control A/c	20,000	By Costing profit & loss A/c (under recovery)	30,000
	2,70,000		2,70,000

Costing Profit & Loss Account

Particulars	(₹)	Particulars		(₹)
To W.I.P. control A/c (Cost of sales)	4,00,000	By General ledger adjustment A/c		
To Works overhead control A/c	30,000	Cost of sales	4,00,000	
To Stores control A/c (shortage)	6,000	10% profit	<u>40,000</u>	4,40,000
To Profit	4,000			
	4,40,000			4,40,000

(B)
Financial Books
Profit & Loss Account

Particulars		(₹)	Particulars		(₹)
To Opening stock			By Sales		4,40,000
Stores	32,000		By Closing stock:		
W.I.P.	<u>60,000</u>	92,000	Stores	84,000	
			W.I.P.	<u>45,000</u>	1,29,000
To Purchases		1,58,000	By Income from investment		10,000
To Wages incurred		70,000	By Loss		11,000
To Overheads incurred		2,50,000			

To Loss on sale of capital assets		20,000			
		5,90,000			5,90,000

Reconciliation statement

	(₹)	(₹)
Profit as per Cost Accounts		4,000
Add: Income from investment recorded in Financial accounts		10,000
		14,000
Less: Under absorption of wages in Cost accounts	5,000	
Loss on sales of capital asset only included in Financial accounts	20,000	25,000
Loss as per Financial accounts		11,000

12. (a) Variable Cost per Running Hour of Machine XR1

Cost Component	Calculation	₹
Variable cost per running hour	₹ 27,500 ÷ 1,100 hours	25.00
Fixed cost per running hour	₹ 20,000 ÷ 1,100 hours	18.18

Cost of Brain Scan on Machine XR1

Cost Component	Calculation	₹
Variable machine cost	4 hours × ₹ 25	100.00
X-ray plates		40.00
Total variable cost		140.00
Fixed machine cost	4 hours × ₹ 18.182	72.73
Total cost of a scan		212.73
Total cost of a satisfactory scan	₹ 212.73 ÷ 0.9	236.37

(b) Relevant Costs for an Additional Scan

Machine	Cost Component	Calculation	₹
XR1	Variable cost per scan		140.00
	Variable cost per satisfactory scan	₹ 140 ÷ 0.9	155.56
XR50	Variable machine cost per scan	(₹ 64,000 ÷ 2,000 hours) × 1.8 hours = ₹ 32 × 1.8	57.60
	X-ray plates		55.00
	Variable cost per scan		112.60
	Variable cost per satisfactory scan	₹ 112.60 ÷ 0.94	119.79

The relevant costs per satisfactory scan are cheaper on Machine XR50 and therefore brain scans should be undertaken on this machine.

13.

Process I
Statement of Equivalent Production and Cost

Input (Units)	Particulars	Output Units	Equivalent Production					
			Materials		Labour		Overheads	
			(%)	Units	(%)	Units	(%)	Units
40,000	Completed	30,000	100	30,000	100	30,000	100	30,000
	Closing WIP	10,000	100	10,000	50	5,000	50	5,000
40,000		40,000		40,000		35,000		35,000

Particulars	Materials	Labour	Overhead	Total
Cost incurred (₹)	15,000	18,000	12,000	45,000
Equivalent units	40,000	35,000	35,000	
Cost per equivalent unit (₹)	0.3750	0.5143	0.3428	1.2321

Process- I Account

Particulars	Units	(₹)	Particulars	Units	(₹)
To Materials	40,000	15,000	By Process-II A/c	30,000	36,964

			(30,000 units × ₹ 1.2321)		
To Labour		18,000	By Closing WIP	10,000	8,036*
To Overhead		12,000			
	40,000	45,000		40,000	45,000

* (Material 10,000 units × ₹ 0.3750) + (Labour 5,000 units × ₹ 0.5143) + (Overheads 5,000 units × ₹0.3428) = ₹ 3,750 + ₹ 2,572 + ₹ 1,714 = ₹ 8,036

Process II

Statement of Equivalent Production and Cost

Input (Units)	Particulars	Output Units	Equivalent Production					
			Materials		Labour		Overheads	
			(%)	Units	(%)	Units	(%)	Units
30,000	Completed	28,000	100	28,000	100	28,000	100	28,000
	Normal loss	200		--		--		--
	WIP	1,800	100	1,800	25	450	25	450
30,000		30,000		29,800		28,450		28,450

Particulars	Materials	Labour	Overhead	Total
Process-I Cost	36,964	--	--	36,964
Cost incurred (₹)	--	3,500	4,500	8,000
Equivalent units	29,800	28,450	28,450	
Cost per equivalent unit (₹)	1.2404	0.1230	0.1582	1.5216

Process- II Account

Particulars	Units	(₹)	Particulars	Units	(₹)
To Process-I A/c	30,000	36,964	By Normal loss A/c	200	--
To Packing Material	--	4,000	By Finished Goods Stock A/c	28,000*	46,605
To Direct Wages	--	3,500	By Closing WIP	1,800**	2,359

To Factory Overhead	--	4,500			
	30,000	48,964		30,000	48,964

* $28,000 \times ₹ 1.5216 = ₹ 42,605 + ₹ 4,000$ (Packing Material Cost) = ₹46,605

** $1,800 \text{ units} \times ₹ 1.2404 + 450 \text{ units} \times (₹ 0.1230 + ₹ 0.1582) = ₹ 2,359$

14. (i) (a) Statement of Joint Cost allocation of inventories of X, Y and Z

(By using Net Realisable Value Method)

	Products			Total
	X	Y	Z	
	(₹)	(₹)	(₹)	(₹)
Final sales value of total production (Working Note 1)	10,98,000 (366 × ₹3,000)	13,20,750 (587 × ₹2,250)	11,41,500 (761 × ₹1,500)	35,60,250
Less: Additional cost	--	--	(6,20,000)	(6,20,000)
Net realisable value (at split-off point)	10,98,000	13,20,750	5,21,500	29,40,250
Joint cost allocated (Working Note 2)	4,66,797	5,61,496	2,21,707	12,50,000

Cost of goods sold as on March 31, 2025

(By using Net Realisable Value Method)

	Products			Total
	X	Y	Z	
	(₹)	(₹)	(₹)	(₹)
Allocated joint cost	4,66,797	5,61,496	2,21,707	12,50,000
Additional costs	--	--	6,20,000	6,20,000
Cost of goods available for sale (CGAS)	4,66,797	5,61,496	8,41,707	18,70,000

Less: Cost of ending inventory (Working Note 1)	2,29,571 (CGAS × 49.18%)	57,385 (CGAS × 10.22%)	27,692 (CGAS × 3.29%)	3,14,648
Cost of goods sold	2,37,226	5,04,111	8,14,015	15,55,352

Working Notes
1. Total production of three products for the year 2024-25

Products	Quantity sold in tones	Quantity of ending inventory in tons	Total production	Ending inventory percentage (%)
(1)	(2)	(3)	(4) = [(2) + (3)]	(5) = (3)/ (4)
X	186	180	366	49.18
Y	527	60	587	10.22
Z	736	25	761	3.29

2. Joint cost apportioned to each product:

$$\frac{\text{Total Joint cost}}{\text{Total Net Realisable Value}} \times \text{Net Realisable Value of each product}$$

$$\text{Total cost of Product X} = \frac{\text{₹ 12,50,000}}{\text{₹ 29,40,250}} \times \text{₹ 10,98,000} = \text{₹ 4,66,797}$$

$$\text{Total cost of Product Y} = \frac{\text{₹ 12,50,000}}{\text{₹ 29,40,250}} \times \text{₹ 13,20,750} = \text{₹ 5,61,496}$$

$$\text{Total cost of Product Z} = \frac{\text{₹ 12,50,000}}{\text{₹ 29,40,250}} \times \text{₹ 5,21,500} = \text{₹ 2,21,707}$$

15. (i) Material Variances

Budget			Std. for actual			Actual		
Quantity (Meter)	Price (₹)	Amount (₹)	Quantity (Meter)	Price (₹)	Amount (₹)	Quantity (Meter)	Price (₹)	Amount (₹)
1	60	60	10,000	60	6,00,000	11,400	58	6,61,200

$$\text{Material Cost Variance} = (\text{SQ} \times \text{SP} - \text{AQ} \times \text{AP})$$

$$= 6,00,000 - 6,61,200 = \text{₹ 61,200 (A)}$$

$$\text{Material Price Variance} = (\text{SP} - \text{AP}) \text{AQ}$$

$$= (60 - 58) 11,400 = ₹ 22,800 \text{ (F)}$$

$$\text{Material Usage Variance} = (SQ - AQ) SP$$

$$= (10,000 - 11,400) 60 = ₹ 84,000 \text{ (A)}$$

(ii) Variable Overheads variances

Variable overhead cost Variance

$$= \text{Standard variable overhead} - \text{Actual Variable Overhead}$$

$$= (10,000 \text{ units} \times 2 \text{ hours} \times ₹ 10) - 2,24,400 = ₹ 24,400 \text{ (A)}$$

Variable overhead Efficiency Variance

$$= (\text{Standard Hours} - \text{Actual Hours}) \times \text{Standard Rate per Hour}$$

Let Actual Hours be 'X', then:

$$(20,000 - X) \times 10 = 4,000 \text{ (A)}$$

$$2,00,000 - 10X = - 4,000$$

$$X = 2,04,000 \div 10$$

$$\text{Therefore, Actual Hours (X)} = 20,400$$

Variable overhead Expenditure Variance

$$= \text{Variable Overhead at Actual Hours} - \text{Actual Variable Overheads}$$

$$= 20,400 \times ₹ 10 - 2,24,400 = ₹ 20,400 \text{ (A)}$$

(iii) Labour variances

Budget			Std. for actual			Actual		
Hours	Rate (₹)	Amount (₹)	Hours	Rate (₹)	Amount (₹)	Hours	Rate (₹)	Amount (₹)
2	20	40	20,000	20	4,00,000	20,400	22*	4,48,800

$$*\text{Actual Rate} = ₹ 4,48,800 \div 20,400 \text{ hours} = ₹ 22$$

$$\text{Labour Cost Variance} = (SH \times SR) - (AH \times AR)$$

$$= 4,00,000 - 4,48,800 = ₹ 48,800 \text{ (A)}$$

$$\text{Labour Rate Variance} = (SR - AR) \times AH$$

$$= (20 - 22) \times 20,400 = ₹ 40,800 \text{ (A)}$$

$$\text{Labour Efficiency Variance} = (SH - AH) \times SR$$

$$= (20,000 - 20,400) \times 20 = ₹ 8,000 \text{ (A)}$$

16. Statement showing Total Cost per annum

Particulars	Amount (₹)
Rent (1,00,000 × 12)	12,00,000
Depreciation on Gym Equipment (30,00,000 / 5)	6,00,000
Licenses & Permits (86,000 × 2)	1,72,000
Insurance	12,000
Salary to the instructors	7,48,000
Utilities (75,000 × 4)	3,00,000
Cleaning supplies	1,44,000
AMC of Equipment & Machinery (1,20,000 × 12)	14,40,000
Marketing expenses	3,00,000
Electricity Expenses April to July (25 days × 16 Hrs × 4 Month × 60 units × 14)	13,44,000
Electricity Expenses August to March (25 days × 16 Hrs × 8 Month × 25 units × 14)	11,20,000
Total cost per annum	73,80,000
Add: Profit 25% on sale or 1/3 on cost	24,60,000
Total amount to be charged	98,40,000

Calculation of per member per month Subscription charges:

Total amount to be charged = ₹ 98,40,000

Equivalent Bronze membership = 9,840

Rate per Bronze membership per month

$$= 98,40,000 / 9,840 = ₹ 1,000$$

Rate per Silver membership per month

$$= 1,000 \times 2 = ₹ 2,000$$

Rate per Gold membership per month

$$= 2,000 \times 1.5 = ₹ 3,000$$

Working note:

Calculation of equivalent Bronze membership:

Type of Membership	April to July	August to March
Gold	$200 \times 100\% = 200$	$200 \times 80\% = 160$
Silver	$200 \times 70\% = 140$	$200 \times 50\% = 100$
Bronze	$200 \times 50\% = 100$	$200 \times 30\% = 60$

Equivalent membership:

Type of Membership	April to July	August to March
Gold	$3 \times 200 = 600$	$3 \times 160 = 480$
Silver	$2 \times 140 = 280$	$2 \times 100 = 200$
Bronze	$1 \times 100 = 100$	$1 \times 60 = 60$
Total	$980 \times 4 = 3,920$	$740 \times 8 = 5,920$

$$\text{Total} = 3,920 + 5,920 = 9,840$$

17. (a) Following cost would influence managerial decisions:

- 1. Pre-determined Cost** - A cost which is computed in advance before production or operations start, on the basis of specification of all the factors affecting cost, is known as a pre-determined cost.
- 2. Differential Cost** - (Incremental and decremental costs). It represents the change (increase or decrease) in total cost (variable as well as fixed) due to change in activity level, technology, process or method of production, etc. For example, if any change is proposed in the existing level or in the existing method of production, the increase or decrease in total cost or in specific elements of cost as a result of this decision will be known as incremental cost or decremental cost.

3. **Product Costs** - These are the costs which are associated with the purchase and sale of goods (in the case of merchandise inventory). In the production scenario, such costs are associated with the acquisition and conversion of materials and all other manufacturing inputs into finished product for sale. Hence, under marginal costing, variable manufacturing costs and under absorption costing, total manufacturing costs (variable and fixed) constitute inventoriable or product costs.
4. **Out-of-pocket Cost** - It is that portion of total cost, which involves cash outflow. This cost concept is a short-run concept and is used in decisions relating to fixation of selling price in recession, make or buy, etc. Out-of-pocket costs can be avoided or saved if a particular proposal under consideration is not accepted.
5. **Shut down Costs** - Those costs, which continue to be, incurred even when a plant is temporarily shut-down e.g. rent, rates, depreciation, etc. These costs cannot be eliminated with the closure of the plant. In other words, all fixed costs, which cannot be avoided during the temporary closure of a plant, will be known as shut down costs.
6. **Sunk Costs** - Historical costs incurred in the past are known as sunk costs. They play no role in decision making in the current period. For example, in the case of a decision relating to the replacement of a machine, the written down value of the existing machine is a sunk cost and therefore, not considered.
7. **Implicit Costs** - These costs do not involve any immediate cash payment. They are not recorded in the books of account. They are also known as economic costs.

(b) **Difference between Scrap and Defectives**

Scrap	Defectives
1. It is the loss connected with the output	1. This type of loss is connected with the output as well as the input.

2. Scraps are not intended but cannot be eliminated due to the nature of material or process itself.	2. Defectives also are not intended but can be eliminated through a proper control system.
3. Generally, scraps are not used or rectified.	3. Defectives can be used after rectification.
4. Scraps have insignificant recoverable value.	4. Defectives are sold at a lower value from that of the good one.

Treatment of Scrap

Normal- The cost of scrap is borne by good units and income arises on account of realisable value is deducted from the cost.

Abnormal- The scrap account should be charged with full cost. The credit is given to the job or process concerned. The profit or loss in the scrap account, on realisation, will be transferred to the Costing Profit and Loss Account.

Treatment of Defectives:

Normal- An amount equal to the cost less realisable value on sale of defectives are charged to material cost of good production.

Abnormal- Material cost of abnormal defectives are not included in material cost but treated as loss after giving credit to the realisable value of such defectives. The material cost of abnormal loss is transferred to costing profit and loss account.



PAPER – 5: AUDITING AND ETHICS



QUESTIONS

PART – I: Multiple Choice Questions based on Case Scenarios

Case Scenario

ABC Limited is a mid-sized manufacturing company engaged in the production of electrical components and spare parts. The company maintains significant inventory across multiple warehouses. During the audit of the financial statements for the year ended 31st March 2025, the auditor noted that inventory prices were highly volatile during the year and that discrepancies in inventory records had been reported in earlier audits. Certain inventory items were also identified as slow-moving and required significant management judgement for valuation. Based on these factors, the auditor assessed the risk of material misstatement in inventory valuation as high.

In the course of the audit, the auditor performed inquiries with the stores manager, production head, and finance personnel to understand the process for identification of obsolete inventory and valuation adjustments. While management represented that adequate provisions had been made for obsolete inventory, the stores manager indicated during inquiry that certain obsolete items were still carried at cost due to pressure to meet profitability targets. This inconsistency prompted the auditor to reassess audit procedures.

Considering the high risk assessment and contradictory responses obtained during inquiry, the auditor decided to perform tests of controls relating to approval of inventory write-downs and review of inventory ageing reports. Based on the results, the auditor concluded that controls over identification

and valuation of obsolete inventory were not operating effectively throughout the period.

Accordingly, the auditor designed and performed substantive procedures, including detailed testing of inventory valuation, examination of subsequent sales prices, physical inspection of slow-moving items, and substantive analytical procedures. While designing these procedures, the auditor identified conditions that would constitute a misstatement in the relevant assertions relating to inventory.

While evaluating the audit evidence obtained, the auditor considered the management assertions made in representing that the financial statements are prepared in accordance with the applicable financial reporting framework, particularly assertions relating to existence, valuation, completeness, and presentation and disclosure of inventory.

Based on above, answer the following MCQs:

1. In the audit of ABC Limited, which combination of circumstances primarily justified the auditor's decision to obtain additional audit evidence for inventory valuation?
 - (a) Existence of slow-moving inventory requiring management judgement
 - (b) Prior period discrepancies, price volatility and contradictory inquiry responses regarding obsolete inventory
 - (c) Materiality of inventory balance and availability of ageing reports
 - (d) Physical dispersion of inventory across multiple warehouses
2. The stores manager's statement that obsolete items were carried at cost due to pressure to meet profitability targets most appropriately implies that the auditor should:
 - (a) Conclude that the issue relates only to operational inefficiency and does not affect financial reporting
 - (b) Accept management's representation regarding adequate provisioning
 - (c) Treat the information as an indicator of potential management bias and modify audit procedures accordingly

- (d) Consider the inquiry response as sufficient appropriate audit evidence
- 3. In the audit of ABC Limited, after obtaining contradictory responses during inquiry and before designing substantive procedures, the auditor decided to test controls specifically over approval of inventory write-downs and review of ageing reports.

This decision was primarily to determine whether:

- (a) Controls existed and operated effectively to prevent management from deferring write-downs of obsolete inventory to meet profitability targets
 - (b) Inventory quantities recorded in the system matched the physical stock across warehouses
 - (c) Substantive testing of inventory valuation could be restricted to analytical procedures only
 - (d) Management representations regarding obsolete inventory could be accepted without further corroboration
4. After concluding that controls over identification and valuation of obsolete inventory were not operating effectively throughout the period, the auditor performed procedures such as examining subsequent sales prices, physically inspecting slow-moving items, and performing substantive analytical procedures.

These procedures were primarily designed to:

- (a) Determine whether inventory write-downs had been formally approved in accordance with internal policies
- (b) Obtain direct audit evidence to evaluate whether inventory was overstated due to delayed or inadequate write-downs
- (c) Re-assess the design of internal controls over inventory management
- (d) Corroborate management's representations regarding profitability targets

5. The auditor identified that certain slow-moving and obsolete inventory items continued to be carried at cost due to pressure to meet profitability targets.

This situation most directly affects which management assertion, thereby requiring focused audit procedures in response to the identified risk?

- (a) Existence – because slow-moving inventory may no longer physically exist
- (b) Completeness – because obsolete inventory may not have been recorded in the inventory records
- (c) Presentation and disclosure – because obsolete inventory requires separate classification in the financial statements
- (d) Valuation – because inventory may be overstated as net realisable value has not been appropriately considered

General MCQs

6. During the audit of QRS Ltd. for the year ended 31 March 2025, the auditor observed that management had changed the method of depreciation from Written Down Value Method to Straight Line Method. The change was applied in the current year and disclosed in the notes to accounts. The auditor also reviewed whether the financial statements appropriately summarised the transactions and events recorded and evaluated the judgments made by management in selecting and applying accounting policies consistently.

In the above case, which of the following represents the auditor's responsibility while evaluating the financial statements?

- (a) To select the most appropriate accounting policies for the entity.
- (b) To prepare and present the financial statements in accordance with applicable statutory requirements.
- (c) To change the accounting policies where they do not reflect true and fair view.
- (d) To ensure that accounting policies selected by management are evaluated for appropriateness and consistent application and that relevant information is properly disclosed.

7. P & Co., Chartered Accountants, were appointed as statutory auditors of LMN Ltd. for the year ended 31 March 2025. Soon after completing the audit for the previous year, the engagement team began discussions for the current year's audit. Before identifying and assessing the risks of material misstatement, the auditor planned the timing of certain activities such as applying analytical procedures, obtaining an understanding of the applicable legal and regulatory framework, determining materiality and considering the need for involvement of experts.

Which of the following statements best explains the nature of audit planning as per the Standards on Auditing in the above case?

- (a) Audit planning is a separate phase that begins only after the identification of risks of material misstatement.
 - (b) Audit planning is a continual and iterative process that includes consideration of analytical procedures, materiality, legal and regulatory framework and involvement of experts prior to performing further audit procedures.
 - (c) Audit planning is restricted to preparation of the audit programme and allocation of audit staff.
 - (d) Audit planning is required only in case of initial audit engagements.
8. While auditing a charitable trust for the year ended 31 March 2025, the auditor obtained a list of books and records maintained by the trust and verified them with the mandatory records prescribed. Based on his evaluation of internal controls, he applied test checks, complied with the applicable Accounting Standards and Standards on Auditing, considered materiality while performing audit procedures and maintained detailed working papers documenting the audit evidence relied upon for forming his opinion.

Which of the following actions of the auditor in the above case is most appropriate as per generally accepted auditing practices?

- (a) Using professional judgment to determine audit tests, applying test checks based on internal control evaluation, considering materiality and maintaining working papers to support the audit opinion.

- (b) Applying test checks irrespective of internal control evaluation, since trust audits are not governed by internal control considerations.
- (c) Restricting compliance to Accounting Standards only, as Standards on Auditing are recommendatory in case of trust audits.
- (d) Maintaining working papers only for material items, as immaterial matters do not require audit documentation.

PART II – Descriptive Questions

Chapter 1 - Nature, Objective and Scope of Audit

9. You are appointed as statutory auditor of Zebra Industries Ltd. for FY 2024–25. During the course of audit, you observe that the company's management frequently delays in providing certain documents and explanations requested by you. A portion of the accounting records related to "special procurement" is supported only by basic acknowledgements without proper vendor details. You also notice that some transactions appear to be with entities that may be related to the company, but management denies the existence of any such relationships. Further, during verification, you find that some documents produced as evidence appear unusually uniform and lack standard commercial markings, raising concerns about their authenticity. Since your audit is conducted on a test-check basis, you are unable to verify all such transactions individually.

Based on the above, explain the inherent limitations of an audit that restrict the auditor from obtaining absolute assurance that the financial statements of Zebra Industries Ltd. are free from material misstatement.

Chapter 2 - Audit Strategy, Audit Planning and Audit Programme

10. You are the Engagement Partner for the statutory audit of Strong Engineering Ltd. for FY 2024–25. While planning the audit, you observe the following practical issues:
- (i) Two newly recruited audit assistants inform you that they are unsure about the exact audit procedures expected from them for different areas of the audit.

- (ii) The audit this year is a major assignment involving multiple units, and your team seems unable to visualise the full scope of procedures to be performed.
- (iii) Because the audit work has not been formally planned, defined and segregated, you are unable to allocate tasks to assistants on the basis of their individual capabilities.
- (iv) Last year, in the absence of a written programme, the then audit team followed a "mental plan", as a result of which certain subsidiary records were overlooked.
- (v) During review, you notice that assistants have not signed off on procedures performed, making it difficult to trace work back to the responsible individual.
- (vi) As the principal auditor, you find it difficult to track the progress of different audit areas because no written audit programme has been initiated by assistants.
- (vii) Your firm wishes to use this year's audit documentation as a reference for planning next year's audit of Strong Engineering Ltd.
- (viii) The firm is also facing a negligence allegation on another audit, and you are concerned about having adequate evidence of exercising reasonable skill and care in this assignment.

Based on above facts, analyse why preparing a written audit programme is advantageous for the audit of Strong Engineering Ltd.

Chapter 3 - Risk Assessment and Internal Control

11. ABC Limited is a medium-sized manufacturing company having multiple departments and large volume of transactions. The management claims that the company has a well-designed internal control system and an internal audit department in place.

While planning the statutory audit, the auditor decides to evaluate the internal control system of the company before determining the nature, timing and extent of audit procedures. During the review, the auditor focuses not only on accounting controls but also on administrative controls and their impact on financial reporting. Based on the above facts, explain how evaluation of the internal control system would

benefit the auditor in planning and conducting the statutory audit of ABC Limited.

Chapter 4 - Audit Evidence

12. XYZ Limited is engaged in infrastructure development and has significant balances relating to valuation of long-term assets and environmental provisions. Environmental provisions are amounts recognised for future obligations like site restoration, environmental clean-up, or compliance with environmental laws, which also involve technical and judgmental estimates. For this purpose, the management has engaged independent experts to determine fair values and technical estimates which have been incorporated in the financial statements.

While conducting the statutory audit, the auditor considers whether and to what extent he can rely on the work performed by the management's expert for obtaining audit evidence and forming his audit opinion.

State the condition and procedures to be followed by the auditor while relying on the work of management's expert.

Chapter 5 - Audit of Items of Financial Statements

13. PQR Limited is engaged in trading and manufacturing activities and reports a substantial amount of inventories in its financial statements as at 31st March 2025. A portion of the inventories is held at the company's own warehouses, while some inventories are held on consignment and with third parties.

While conducting the audit, the auditor is required to obtain sufficient and appropriate audit evidence to establish the legal ownership rights over the inventories claimed to be held by the entity and recorded in the financial statements.

State the audit procedures to establish the legal ownership rights over the inventories claimed to be held by the entity.

14. TUV Ltd. is engaged in the business of manufacturing and sale of electronic appliances. During the audit of the company for the year ended 31st March 2025, the auditor observed a significant increase in revenue in the last month of the financial year as compared to previous months.

Further, it was noticed that:

- Some sales invoices near year-end were cancelled subsequently.
- The sales return ratio for the current year showed wide fluctuation compared to the previous year.
- Management was under pressure to meet revenue targets to comply with loan covenants.
- Certain customers had not made payments even after an extended credit period.

The auditor is concerned about the risk of overstatement of revenue and wants to verify whether the recorded sales genuinely represent goods shipped or services performed during the period.

As an auditor, explain the audit procedures you would perform to verify the Occurrence assertion in respect of revenue transactions of TUV Ltd.

Chapter 6 - Audit Documentation

15. ABC & Co., Chartered Accountants is conducting the statutory audit of a listed company having multiple locations and a large engagement team. The audit involves extensive planning, supervision, review of work performed by assistants and is also subject to quality control review by the firm as well as possible inspection by regulatory authorities.

During the audit, the engagement partner emphasises the need for proper and comprehensive audit documentation.

With reference to above, explain the purpose served by audit documentation for the auditor and the engagement team.

Chapter 7 - Completion and Review

16. During the audit of LMN Limited, the auditor identified certain significant deficiencies in the internal control system which could adversely affect the reliability of financial reporting. The auditor is required to communicate such deficiencies to those charged with governance and also to management on a timely basis.

Further, the auditor is required to ensure that the written communication clearly specifies the nature and implications of such deficiencies.

With reference to above, explain:

- (i) the auditor's responsibility for communication of significant deficiencies in internal control to those charged with governance and management; and
- (ii) the matters that the auditor shall include in the written communication of such significant deficiencies.

Chapter 8 - Audit Report

17. "Using the Work of Another Auditor" is a critical area in the audit of entities having branches or components audited by auditors other than the principal auditor.

With reference to SA 600 – Using the Work of Another Auditor, explain:

- 1. The need for coordination and proper understanding between the principal auditor and the other auditor; and
- 2. The procedures to be performed by the principal auditor to evaluate and use the work of the other auditor, including circumstances where the principal auditor may need to visit the component or examine its records.

Chapter 9 - Special Features of Audit of Different Type of Entities

18. Hope Foundation, a registered non-governmental organisation (NGO), is engaged in social welfare activities across multiple states and receives funds from domestic as well as foreign donors. The organisation is governed by a Managing Committee and is required to comply with various statutes and funding agency requirements.

While planning the statutory audit of the NGO, the auditor is required to obtain a thorough understanding of the organisation, its regulatory environment, internal systems and prior audit findings in order to design appropriate audit procedures.

With reference to above, state the matters on which the auditor may concentrate while planning the audit of an NGO.

Chapter 10 - Audit of Banks

19. ABC Bank Limited has a substantial portfolio of advances comprising term loans, cash credit facilities and overdrafts. As at the balance sheet date, significant amounts of advances are outstanding and are required to be valued, classified and disclosed in accordance with applicable accounting standards, RBI norms and regulatory requirements.

While carrying out the audit of advances, the auditor is required to obtain sufficient and appropriate audit evidence to ensure that the advances reported in the balance sheet are properly recorded, supported, valued and disclosed.

With reference to the above, state the primary matters with respect to which the auditor should obtain audit evidence while carrying out the audit of advances.

Chapter 11 - Ethics and Terms of Audit Engagements

20. ABC & Co., Chartered Accountants, was appointed as the statutory auditor of Kimi Manufacturing Ltd. for the financial year ended 31st March 2025. CA Arjun, a senior partner of the firm, was designated as the Engagement Partner for the audit engagement.

In accordance with SA 220, "Quality Control for an Audit of Financial Statements", CA Arjun took active steps to demonstrate leadership and responsibility for the overall quality of the audit. He communicated to the engagement team the importance of complying with professional standards, regulatory and legal requirements, and adherence to the firm's quality control policies and procedures.

He also emphasised that the auditor's report should be appropriate in the circumstances and should be issued only after obtaining sufficient and appropriate audit evidence. Further, CA Arjun encouraged open communication within the engagement team and assured members that they could raise professional concerns or doubts without fear of reprisals. Throughout the engagement, he consistently highlighted that audit quality is essential in performing audit engagements.

With reference to SA 220, explain how the actions and messages conveyed by the engagement partner demonstrate leadership responsibilities for ensuring overall audit quality on an audit engagement.



SUGGESTED ANSWERS

PART – I: Answers to Multiple Choice Questions

MCQ No.	Answer
1.	(b)
2.	(c)
3.	(a)
4.	(b)
5.	(d)
6.	(d)
7.	(b)
8.	(a)

PART – II: Answers to Descriptive Questions

9. The auditor carries out his work by obtaining audit evidence through performance of audit procedures. However, there are practical and legal limitations on ability of auditor to obtain audit evidence. For example, an auditor does not test all transactions and balances. He forms his opinion only by testing samples. It is an example of practical limitation on auditor's ability to obtain audit evidence.

Management may not provide complete information as requested by auditor. There is no way by which auditor can force management to provide complete information as may be requested by auditor. In case he is not provided with required information, he can only report. It is an example of *legal limitation* on auditor's ability to obtain audit evidence.

The management may consist of dishonest and unscrupulous people and may be, itself, involved in fraud. It may be engaged in concealing fraud by designing sophisticated and carefully organised schemes which

may be hard to detect by the auditor. It may produce fabricated documents before auditor to lead him to believe that audit evidence is valid. However, in reality, such documents could be fake or non-genuine.

Auditor is not an expert in authentication of documents. Therefore, he may be led to accept invalid audit evidence on the basis of unauthentic documents.

It is quite possible that entity may have entered into some transactions with related parties. Such transactions may be only paper transactions and may not have actually occurred. The auditor may not be aware of such related party relationships or audit procedures may not be able to detect probable wrong doings in such transactions.

These factors collectively demonstrate that, due to practical constraints, legal boundaries, management fraud risks, and limitations in detecting related party transactions, the auditor can obtain only reasonable assurance and not absolute assurance regarding the accuracy of the financial statements.

- 10.** In the present case, the absence of a written audit programme has led to confusion among assistants, ineffective supervision, omission of records and lack of documentary evidence. These issues clearly establish the importance and advantages of preparing a written audit programme. The advantages in the present case may be analysed as follows:
- (i) Clear instructions to assistants: The newly recruited assistants are unsure about the audit steps. A written audit programme provides detailed, written instructions regarding the nature, timing and extent of audit procedures regarding the work to be performed.
 - (ii) Providing a total perspective for a major audit: The current audit is a major, multi-unit assignment. A properly drafted programme gives the team a complete perspective of all audit procedures required.
 - (iii) Easier selection of assistants based on capability: You find it difficult to allocate work because tasks are not defined. Once the work is rationally planned, defined and segregated, assistants can be assigned roles more effectively depending on their capability.

- (iv) Reduces risk of overlooking books/records: Last year some subsidiary records were overlooked due to reliance on a mental plan.

A written and predetermined programme ensures systematic and comprehensive coverage of all books and records and ensures systematic coverage.

- (v) Fixation of responsibility through sign-offs: Absence of signatures prevents linking work to individuals. A written programme allows each assistant to sign off, accepting responsibility for work done.
- (vi) Enables control and monitoring by the principal: You are unable to track progress without a written programme. When assistants initiate and follow the programme, the principal can control and monitor the audit progress effectively.
- (vii) Serves as a guide for next year's audit: The firm wants to use this year's work as reference for next year's planning.

A properly drafted programme acts as a useful guide for future audits.

- (viii) Provides evidence against negligence allegations: Since the firm faces negligence allegations elsewhere, proper documentation is critical.

A well-constructed programme provides evidence that the auditor exercised reasonable skill and care.

Considering all facts, preparing a written, structured audit programme will address each challenge directly, enhance audit efficiency, improve accountability, and provide strong defence evidence in case of negligence allegations. Therefore, adopting a comprehensive audit programme is clearly advantageous for the audit of Strong Engineering Ltd.

11. Benefits of Evaluation of Internal Control to the Auditor: The review of internal controls will enable the auditor to know:

- (i) whether errors and frauds are likely to be located in the ordinary course of operations of the business

- (ii) whether an adequate internal control system is in use and operating as planned by the management
- (iii) whether an effective internal auditing department is operating
- (iv) whether any administrative control has a bearing on his work (for example, if the control over worker recruitment and enrolment is weak, there is a likelihood of dummy names being included in the wages sheet and this is relevant for the auditor)
- (v) whether the controls adequately safeguard the assets
- (vi) how far and how adequately the management is discharging its function in so far as correct recording of transactions is concerned
- (vii) how reliable the reports, records and the certificates to the management can be
- (viii) the extent and the depth of the examination that he needs to carry out in the different areas of accounting
- (ix) what would be appropriate audit technique and the audit procedure in the given circumstances
- (x) what are the areas where control is weak and where it is excessive and
- (xi) whether some worthwhile suggestions can be given to improve the control system.

Thus, evaluation of internal control provides a sound basis for audit planning, helps the auditor assess control risk, and enables him to design appropriate audit procedures while also contributing to improvement of the control system.

- 12.** If the entity has employed or engaged experts, the auditor may rely on the works of experts, provided he is satisfied that sufficient and appropriate audit evidence is obtained with reasonable assurance to form an opinion on the financial statements.

When information to be used as audit evidence has been prepared using the work of a management's expert, the auditor shall, to the extent necessary, having regard to the significance of that expert's work for the auditor's purposes;

- (a) Evaluate the competence, capabilities and objectivity of that expert;
- (b) Obtain an understanding of the work of that expert; and
- (c) Evaluate the appropriateness of that expert's work as audit evidence for the relevant assertion.

Thus, reliance on the work of a management's expert does not reduce the auditor's responsibility, and the auditor must exercise professional judgment to ensure that such work provides sufficient and appropriate audit evidence.

- 13.** Audit procedure to establish the legal ownership rights over the Inventories claimed to be held by the entity and recorded in the financial statements:
- (i) Vouch recorded purchases to underlying documentation (purchase requisition, purchase order, receiving report, vendor invoice and cancelled cheque or payment file).
 - (ii) Evaluate the consigned goods.
 - (iii) Examine client correspondence, sales and receivables records, purchase documents.
 - (iv) Determine existence of collateral agreements.
 - (v) Review consignment agreements.
 - (vi) Review material purchase commitment agreements.
 - (vii) Examine invoices for evidence of ownership i.e. the invoices shall be in the name of the client.
 - (viii) Auditor shall obtain confirmation for significant items of inventory.
 - (ix) For instances of inventory held by third party, the auditor should insist on obtaining declaration from the third party on its business letterhead and signed by authorised personnel of that third party confirming that the items of inventory belong to the entity and are being held by such third party on behalf of and for the benefit of the entity under audit.

Thus, by performing the above procedures, the auditor can obtain sufficient and appropriate audit evidence regarding the entity's legal ownership rights over inventories reported in the financial statements.

14. Audit Procedure – Occurrence Assertion: To verify that recorded sales represent goods actually shipped or services actually performed during the period, the auditor should perform the following audit procedures to satisfy the Occurrence assertion and ensure that revenue is not overstated:

1. Ensure revenue is not overstated by performing the following audit procedures:
 - Check whether a single sales invoice has been recorded twice or whether a cancelled sales invoice has also been recorded.
 - Test check a few sales invoices with their relevant entries in the sales journal.
 - Obtain confirmation from a few customers to ensure the genuineness of sales transactions.
 - Verify whether any fictitious customers and fictitious sales have been recorded.
 - Examine whether any shipments were made without the consent and agreement of the customer, especially at the year end, with the intention of inflating sales figures.
 - Check whether any unearned revenue has been incorrectly recorded as earned.
 - Evaluate whether any substantial uncertainty exists regarding the collectability of sales proceeds.
 - Examine whether customer obligations are contingent upon other actions such as financing, resale, etc.
2. Review the sequence of sales invoices to identify any missing, duplicate, or irregular invoices.
3. Review journal entries for unusual or non-routine revenue transactions.

4. Calculate the ratio of sales returns to sales and compare it with the previous year and enquire into the reasons for any significant increase or decrease.
5. Verify sales returns with supporting documents such as sales invoices, challans, credit notes, and stock registers.

Based on above audit procedures, the auditor would be able to conclude whether the sales recorded during the period are genuine, relate to actual shipments or services rendered, and are free from fictitious, duplicate, or premature recognition. These procedures directly address the risks highlighted in the given question regarding overstatement of revenue, particularly at the year end, and provide reasonable assurance on the Occurrence assertion of revenue.

- 15.** The following are the purpose of Audit documentation:
1. Assisting the engagement team to plan and perform the audit.
 2. Assisting members of the engagement team to direct and supervise the audit work, and to discharge their review responsibilities.
 3. Enabling the engagement team to be accountable for its work.
 4. Retaining a record of matters of continuing significance to future audits.
 5. Enabling the conduct of quality control reviews and inspections in accordance with SQC 1.
 6. Enabling the conduct of external inspections in accordance with applicable legal, regulatory or other requirements.

Thus, in the given case, audit documentation supports effective audit planning, supervision, accountability, and compliance with quality control and regulatory inspection requirements.

- 16.** The auditor shall communicate in writing significant deficiencies in internal control identified during the audit to those charged with governance on a timely basis.

The auditor shall also communicate to management at an appropriate level of responsibility on a timely basis: –

- (a) In writing, significant deficiencies in internal control that the auditor has communicated or intends to communicate to those charged with governance, unless it would be inappropriate to communicate directly to management in the circumstances; and
- (b) Other deficiencies in internal control identified during the audit that have not been communicated to management by other parties and that, in the auditor's professional judgment, are of sufficient importance to merit management's attention.

The auditor shall include in the written communication of significant deficiencies in internal control:

- (a) A description of the deficiencies and an explanation of their potential effects; and
- (b) Sufficient information to enable those charged with governance and management to understand the context of the communication.

In particular, the auditor shall explain that:

- (i) The purpose of the audit was for the auditor to express an opinion on the financial statements;
- (ii) The audit included consideration of internal control relevant to the preparation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of internal control; and
- (iii) The matters being reported are limited to those deficiencies that the auditor has identified during the audit and that the auditor has concluded are of sufficient importance to merit being reported to those charged with governance.

Thus, proper written communication of significant deficiencies along with their implications and context, enables timely corrective action and enhances the effectiveness of governance and internal control systems.

17. Using the Work of another Auditor:

1. Need for Coordination and Proper Understanding between the Principal Auditor and the Other Auditor

When the accounts of the branch are audited by a person other than the company's auditor (principal auditor), there is need for a clear understanding of the role of such other auditor and the company's auditor in relation to the audit of the accounts of the branch and the audit of the company as a whole. There is also great necessity for a proper rapport between these two auditors for the purpose of an effective audit.

In recognition of these needs, SA 600 makes it clear that:

- The principal auditor should advise the other auditor of the use that is to be made of the other auditor's work and report and make sufficient arrangements for coordination of their efforts at the planning stage of the audit.
- The principal auditor would inform the other auditor of matters requiring special consideration, procedures for the identification of inter-component transactions that may require disclosure, and the time-table for completion of audit.
- The principal auditor should advise the other auditor of the significant accounting, auditing and reporting requirements and obtain representation as to compliance with them.

2. Procedures to be Performed by the Principal Auditor to Evaluate and Use the Work of the Other Auditor

SA 600 requires that the principal auditor should perform procedures to obtain sufficient appropriate audit evidence that the work of the other auditor is adequate for the principal auditor's purposes in the context of the specific assignment.

The principal auditor might:

- Discuss with the other auditor the audit procedures applied; or
- Review a written summary of the other auditor's procedures and findings, which may be in the form of a completed questionnaire or checklist.

The principal auditor may also wish to visit the other auditor. The nature, timing and extent of such procedures will depend on the circumstances of the engagement and the principal auditor's knowledge of the professional competence of the other auditor. This knowledge may have been enhanced from the review of the previous audit work of the other auditor.

Further, in certain situations, the statute governing the entity may confer a right on the principal auditor to visit a component and examine the books of account and other records of the said component, if he thinks it necessary to do so. Where another auditor has been appointed for the component, the principal auditor would normally be entitled to rely upon the work of such auditor unless there are special circumstances making it essential for him to visit the component and/or examine its books of account and other records.

- 18.** While planning the audit, the auditor may concentrate on the following:
- (i) Knowledge of the NGO's work, its mission and vision, areas of operations and environment in which it operates.
 - (ii) Updating knowledge of relevant statutes especially with regard to recent amendments, circulars, judicial decisions viz. Foreign Contribution (Regulation) Act 2010, Societies Registration Act, 1860, Income Tax Act 1961 etc. and the Rules related to the statutes.
 - (iii) Reviewing the legal form of the Organisation and its Memorandum of Association, Articles of Association, Rules and Regulations.
 - (iv) Reviewing the NGO's Organisation chart, then Financial and Administrative Manuals, Project and Programme Guidelines, Funding Agencies Requirements and formats, budgetary policies if any.
 - (v) Examination of minutes of the Board/Managing Committee/Governing Body/Management and Committees thereof to ascertain the impact of any decisions on the financial records.
 - (vi) Study the accounting system, procedures, internal controls and internal checks existing for the NGO and verify their applicability.
 - (vii) Setting of materiality levels for audit purposes.

- (viii) The nature and timing of reports or other communications.
- (ix) The involvement of experts and their reports.
- (x) Review the previous year's Audit Report.

Thus, a comprehensive understanding of the NGO's objectives, regulatory framework, governance structure and internal systems enables the auditor to plan the audit effectively and perform it in accordance with applicable auditing standards.

- 19.** In carrying out audit of advances, the auditor is primarily concerned with obtaining evidence about the following:
- (a) Amounts included in balance sheet in respect of advances which are outstanding at the date of the balance sheet.
 - (b) Advances represent amount due to the bank.
 - (c) Amounts due to the bank are appropriately supported by loan documents and other documents as applicable to the nature of advances.
 - (d) There are no unrecorded advances.
 - (e) The stated basis of valuation of advances is appropriate and properly applied and the recoverability of advances is recognised in their valuation.
 - (f) The advances are disclosed, classified and described in accordance with recognised accounting policies and practices and relevant statutory and regulatory requirements.
 - (g) Appropriate provisions towards advances have been made as per the per the RBI norms, Accounting Standards and generally accepted accounting practices.
- 20.** Leadership responsibility of an engagement partner is to take responsibility for the overall quality on each audit engagement. The actions of the engagement partner and appropriate messages to the other members of the engagement team, in taking responsibility for the overall quality on each audit engagement, emphasise:
- (a) The importance to audit quality of: -

- (i) Performing work that complies with professional standards and regulatory and legal requirements;
 - (ii) Complying with the firm's quality control policies and procedures as applicable;
 - (iii) Issuing auditor's reports that are appropriate in the circumstances; and
 - (iv) The engagement team's ability to raise concerns without fear of reprisals.
- (b) The fact that quality is essential in performing audit engagements.

Thus, in line with SA 220 – "Quality Control for an Audit of Financial Statements", the engagement partner, CA Arjun, has demonstrated effective leadership by taking responsibility for the overall quality of the audit engagement. Through his actions and communications, he emphasised the importance of compliance with professional standards, regulatory and legal requirements, adherence to the firm's quality control policies and procedures, issuance of an appropriate auditor's report, and fostering an environment where engagement team members can raise concerns without fear of reprisals. These actions clearly reinforce the fundamental principle that quality is essential in performing audit engagements, thereby fulfilling the leadership responsibilities of the engagement partner as required under SA 220.



PAPER – 6:

FINANCIAL MANAGEMENT AND STRATEGIC MANAGEMENT

6A: FINANCIAL MANAGEMENT



QUESTIONS

PART I - Case Scenario based MCQs

1. ABC Ltd, a newly incorporated company, commenced its operations in 2024 by issuing equity shares at face value. The company follows a pure equity capital structure and has 10,000 equity shares outstanding.

During its first two years of operations, the company demonstrated stable financial performance. It earned a profit of ₹ 1,00,000 in 2024 and ₹ 1,04,000 in 2025, reflecting a consistent annual growth rate of 4%. The company's cost of equity (K_e) is estimated at 8%. Based on the Gordon Growth Model, the market price per share at the end of 2025 has been valued at ₹ 162.24.

Although the company has been following a traditional dividend payout policy, the management is now concerned about whether this policy maximizes shareholders' wealth. Specifically, the Board of Directors wants to assess whether the current dividend payout ratio is appropriate in light of the company's growth prospects and return on retained earnings.

To support this decision, the finance team has been instructed to evaluate the firm's dividend policy using both the Gordon Growth Model and Walter's Model. The objective is to determine the impact of the existing and alternative dividend payout strategies on the company's

market price per share, growth rate, capital employed, and overall shareholder wealth maximization.

You are required to answer the following requirements:

- (i) Based on the given information, what is the face value per share and the rate of return on retained earnings (r)?
 - (A) ₹ 10 and 8%
 - (B) ₹ 100 and 10%
 - (C) ₹ 100 and 8%
 - (D) ₹ 10 and 10%
- (ii) What is the market price per share in 2025 under Walter's Model?
 - (A) ₹ 162.24
 - (B) ₹ 150.00
 - (C) ₹ 143.00
 - (D) ₹ 170.00
- (iii) If the firm's return on retained earnings (10%) is greater than its cost of equity (8%), what is the optimum dividend payout ratio and corresponding market price per share?
 - (A) 60% payout; ₹ 143.00
 - (B) 40% payout; ₹ 150.00
 - (C) 0% payout; ₹ 162.50
 - (D) 100% payout; ₹ 130.00
- (iv) What is the capital employed at the beginning of 2026, growth rate and estimated earnings for 2026 if company continue the existing (traditional) dividend payout ratio in 2025?
 - (A) ₹ 11,24,864; 4%; ₹ 1,12,486
 - (B) ₹ 11,89,760; 10%; ₹ 1,18,976

- (C) ₹ 10,81,600; 4%; ₹ 1,08,160
- (D) ₹ 11,24,864; 10%; ₹ 1,18,976
- (v) What is the capital employed at the beginning of 2026, growth rate and estimated earnings for 2026 if company adopts optimum dividend payout ratio in 2025?
- (A) ₹ 11,24,864; 4%; ₹ 1,12,486
- (B) ₹ 11,89,760; 10%; ₹ 1,18,976
- (C) ₹ 10,40,000; 8%; ₹ 1,04,000
- (D) ₹ 11,44,000, 10%, ₹ 1,14,400
2. A firm's current liabilities comprise bank credit and other liabilities in the ratio of 2 : 1. The current liabilities of the firm are 3,00,000 and the current ratio is also 2 : 1. The quick ratio is 1 : 1. Thus, the amount of bank credit and inventory of the firm would be :
- (A) ₹ 3,00,000 and ₹ 1,00,000
- (B) ₹ 2,00,000 and ₹ 3,00,000
- (C) ₹ 3,00,000 and ₹ 2,00,000
- (D) ₹ 1,00,000 and ₹ 3,00,000
3. The capital structure of JKL Limited consists of 12% debentures of ₹ 50 lakhs, 10% preference shares of ₹ 25 lakhs, 14% term loan of ₹ 15 lakhs and equity share capital of ₹ 48 lakhs. Its reserves & surpluses are ₹ 24 lakhs. What would be the capital-gearing ratio?
- (A) 1.04
- (B) 1.25
- (C) 1.33
- (D) 1.56

PART - II Descriptive Questions
Ratio Analysis

4. The following information pertains to P Limited for the year ended 31st March, 2025 :

Particulars	Amount / Ratio
Sales	₹ 3,60,00,000
Rate of Income Tax	40%
Return on Net Worth	30%
Share Capital to Reserves Ratio	6 : 4
Current Ratio	2 : 1
Percentage of Net Profit to Sales	8%
Inventory Turnover (based on cost of goods sold)	12
Cost of goods sold	₹ 1,44,00,000
Sundry Debtors	₹ 12,00,000
Sundry Creditors	₹ 16,00,000
Interest on 14% debentures	₹ 3,36,000

You are required to CALCULATE:

- (i) Operating Expenses
- (ii) Share Capital and Reserves
- (iii) Closing Stock
- (iv) Fixed Assets

Cost of Capital

5. Zebra Dynamics Ltd., a diversified engineering firm, is currently undergoing a strategic review of its capital financing. The Board of Directors has set strict hurdles for new project approvals. The Chief Financial Officer (CFO) has stated that the company's Cost of Capital based on Book Value weights is currently 11%, while the Cost of Capital based on Market Value weights is exactly 150 basis points higher.

Market Benchmarking Data

To determine the cost of equity, the finance team has gathered data on two comparable peers, A Ltd. and B Ltd, which operate in the same economic environment. Their returns are driven by the Capital Asset Pricing Model (CAPM):

Security	Beta	Expected CAPM Return
A Ltd.	1.2	15.20%
B Ltd.	0.8	12.80%

Capital Structure:

- Book Value Terms: The company maintains a traditional balance sheet with an equal ratio of Equity and Debt.
- Market Value Terms: Due to market optimism, the company's equity trades at a premium. The Market Value of Equity is 3 times its Book Value, while the debt trades at par (Market Value of Debt equals Book Value).

Debt Instrument Details

The company's debt capital is raised entirely through Debentures with the following characteristics:

- Coupon Rate: 7% per annum.
- Issue Details: The debentures were issued at a discount of ₹ 10 for ₹ 90.
- Redemption: They are redeemable at Par (₹ 100).
- Tenure: The debentures mature in 4 years.

You have been hired as a financial consultant to

- (i) PROVIDE a detailed breakdown of the component costs.
- (ii) CALCULATE the corporate tax rate applicable to the company assuming Discount on issue or premium on redemption are tax deductible.
- (iii) CALCULATE the Beta of the company.

Capital Structure

6. The following data relate to two companies belonging to the same risk class:

Particulars	A Ltd.	B Ltd.
Expected Net Operating Income	₹ 18,00,000	₹ 18,00,000
12% Debt	₹ 54,00,000	-
Equity Capitalization Rate	?	18

Required:

- DETERMINE the total market value, equity capitalization rate and weighted average cost of capital for each company assuming no taxes as per M.M. Approach.
- DETERMINE the total market value, equity capitalization rate and weighted average cost of capital for each company assuming 40% taxes as per M.M. Approach.

Leverage Analysis

7. ABC Manufacturing Limited produces industrial components with a well-established market presence. The company operates under a special tax-free status granted by the government, which exempts it from corporate income tax obligations.

Financial Information

The company's financial parameters for the current fiscal year are as follows:

Capital Structure Details

- Total Capital Invested: ₹ 20,00,000 (₹ 20 lakhs)
- Cost of Equity (K_e): 12% per annum
- Cost of Debt (K_d): 6% per annum
- Weighted Average Cost of Capital (WACC): 9% per annum

Operational Information

- Annual Sales Revenue: ₹ 24,00,000 (₹ 24 lakhs)

- Variable Costs: 50% of sales revenue
- Fixed Costs: ₹ 10,00,000 (₹ 10 lakhs) per annum

General corporate tax is 25%

As a financial analyst, you have been tasked with conducting a comprehensive financial analysis of ABC Manufacturing Limited. Specifically, you are required to:

- DETERMINE the optimal debt-equity composition that results in the given weighted average cost of capital of 9%.
- PREPARE a comprehensive Income Statement showing the company's profitability from operations through net income when the cost of debt is 6%, 10% & 12%.
- CALCULATE the Return on Investment (ROI) to assess how efficiently the company is utilizing its total capital invested.
- CALCULATE the Return on Equity (ROE) to evaluate the returns generated for equity shareholders.
- FIND the different leverages in the following format

Leverages	Computation	Dependent on	Indicates effect of ___ on
Leverages showing level of business risk			
Leverages showing level of finance risk			
Leverages showing level of combined risk			

- EXPLAIN the concept of Leverage as a double edged sword by explaining the Leverage Effect when $ROI > K_d$, $ROI = K_d$, $ROI < K_d$.
- DERIVE ROE from ROI in the following format –

Cost of debt =	6%	10%	12%
Return on Investment % of Equity			
Surplus / Deficit from debt payments in %			
Surplus / Deficit from debt payments in INR			
Return on Equity in INR=ROI + Surplus – Deficit			
Return on Equity in % = Return on Equity in INR/Equity			

Investment Decisions

8. EquipLease Financial Services Ltd. is a specialized equipment leasing company that has been operating in the industrial equipment financing space for over 15 years. The company's business model involves purchasing high-value machinery and leasing it to manufacturing companies, thereby earning returns through lease rentals while retaining ownership of the assets. The company has built a strong reputation for providing flexible financing solutions tailored to clients' cash flow patterns and business cycles. Their leasing arrangements help clients conserve capital while accessing state-of-the-art equipment.

EquipLease has recently purchased a specialized CNC precision machine with the following informations:

- **Purchase Cost:** ₹ 10,00,000 (paid upfront)
- **Expected Useful Life:** 4 years
- **Residual/Salvage Value:** Nil (technology becomes obsolete)
- **Depreciation for Tax Purposes:** Can be claimed by EquipLease under Straight line method (SLM) or Units of Production method(UOP)
- **Lease Rentals** earned by company is subject to tax.
- **EquipLease's Cost of Capital:** 10% per annum
- **Corporate Tax Rate:** 25%

TechManufacture Industries Ltd., a growing precision engineering company, has approached EquipLease expressing interest in leasing this

CNC machine. TechManufacture has provided detailed information about their expected utilization pattern:

The machine's usage will follow a graduated ramp-up pattern based on TechManufacture's order book projections:

Year	Production Capacity Utilization	Relative Units
1	Low (Initial phase)	1 unit
2	Medium	2 units
3	High	3 units
4	Peak	4 units

This pattern is typical for businesses scaling up production with new equipment - starting slow as operators are trained and processes are optimized, then ramping up to full capacity. The Client wants the company to charge lease rentals based on the client's utilization pattern 1:2:3:4.

Mr. Vikram Malhotra, the Chief Credit Officer at EquipLease, is tasked with structuring an appropriate lease arrangement. He faces several strategic decisions:

- i. HOW MUCH portion of the cost is recovered from tax savings on depreciation under both the methods viz. SLM & units of production method.
- ii. FIND the portion of investment to be recovered from lease rentals under both the assumptions i.e. Depreciation under both the methods viz. SLM & units of production method.
- iii. DETERMINE minimum lease rentals needed to recover the balance cost of investment after adjusting the Tax shields on the depreciation under both the depreciation methods if -
 - EquipLease charge uniform (equal) rentals over 4 years
 - Lease rentals follow the client's utilization pattern (1:2:3:4)

Working Capital

9. Following information is forecasted by the Puja Limited for the year ending 31st March, 2025:

	Balance as at 1 st April, 20X6	Balance as at 31 st March, 20X7
	(₹)	(₹)
Raw Material	45,000	65,356
Work-in-progress	35,000	51,300
Finished goods	60,181	70,175
Debtors	1,12,123	1,35,000
Creditors	50,079	70,469
Annual purchases of raw material (all credit)		4,00,000
Annual cost of production		7,50,000
Annual cost of goods sold		9,15,000
Annual operating cost		9,50,000
Annual sales (all credit)		11,00,000

You may take one year as equal to 365 days.

You are required to CALCULATE:

- Net operating cycle period.
- Number of operating cycles in the year.
- Amount of working capital requirement using operating cycles.

Miscellaneous

10. (a) DISCUSS the features of international funding and angel financing in the context of corporate financing.

- (b) "The treasury department of a business concern has evolved its importance over the years from being responsible for only cash handling issues to technical areas revolving around hedging forex risks and composition of capital structure." In the light of this statement, EXPLAIN briefly the fundamental tasks for which treasury department is responsible.
- (c) STATE the acceptance rule under Internal Rate of Return (IRR) method of capital budgeting.

**SUGGESTED ANSWERS**

1. (i) (B) ₹ 100 and 10%

Working Note 1: Earnings per Share (EPS) and Growth rate

$$EPS_{2025} = \frac{1,04,000}{10,000} = ₹ 10.40$$

$$\text{Growth rate (g)} = \frac{1,04,000 - 1,00,000}{1,00,000} = 4\%$$

Working Note 2: Dividend Payout Ratio & Retention Ratio

Using Gordon Growth Model:

$$P_0 = \frac{D_1}{K_e - g}$$

$$162.24 = \frac{D_1}{0.08 - 0.04} \Rightarrow D_1 = 6.4896$$

$$D_0 = \frac{6.4896}{1.04} = ₹ 6.24$$

Dividend Payout Ratio (DPR)

$$DPR = \frac{6.24}{10.40} = 60\%$$

Retention Ratio (b)

$$b = 1 - 0.60 = 40\%$$

Working Note 3: Rate of Return on Retained Earnings (r)

$$g = b \times r$$

$$0.04 = 0.40 \times r \Rightarrow r = 10\%$$

$$\text{Earnings in 2024} = 1,00,000$$

$$\text{Capital employed} = \frac{1,00,000}{10\%} = ₹ 10,00,000$$

$$\text{Face value per share} = \frac{10,00,000}{10,000} = ₹ 100$$

(ii) (C) ₹ 143.00

Market Price per Share under Walter's Model (2025)

$$P = \frac{D + \frac{r}{K_e}(E - D)}{K_e}$$

Where:

$$E = 10.40$$

$$D = 6.24$$

$$r = 10\%$$

$$K_e = 8\%$$

$$\frac{r}{K_e} = 1.25$$

$$E - D = 4.16$$

$$P = \frac{6.24 + (1.25 \times 4.16)}{0.08}$$

$$P = ₹ 143.00$$

(iii) (C) 0% payout; ₹ 162.50

Optimum Dividend Policy and Optimum Price (Walter's Model)

When $r > K_e$, optimum dividend payout ratio = 0%

$$D = 0$$

$$P = \frac{\frac{r}{K_e} \times E}{K_e}$$

$$P = \frac{1.25 \times 10.40}{0.08} = ₹ 162.50$$

(iv) (C) ₹ 10,81,600; 4%; ₹ 1,08,160

Year	Capital Employed in Beginning (₹)	Retained Earning for the year (₹)
2024	₹ 10,00,000	1,00,000 × 40% = ₹ 40,000
2025	10,00,000 + 40,000 = ₹ 10,40,000	1,04,000 × 40% = ₹ 41,600
2026	10,40,000 + 41,600 = ₹ 10,81,600	-

Earnings 2026 = 10,81,600 × 10% = ₹ 1,08,160

Growth rate = 4%

(v) (D) ₹ 11,44,000, 10%, ₹ 1,14,400

Revised Growth rate under optimum dividend policy

$$G = b \times r$$

$$G = 100 \times 10\% \Rightarrow g = 10\%$$

$$\text{Capital employed (Beginning 2026)} = 10,40,000 + (1,04,00 \times 100\%)$$

$$= ₹ 11,44,000$$

$$\text{Earnings 2026} = 11,44,000 \times 10\% = ₹ 1,14,400$$

2. (B) ₹ 2,00,000 and ₹ 3,00,000

Calculation of Current Assets

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Current Assets} = \text{Current Ratio} \times \text{Current Liabilities}$$

$$= 2 \times ₹ 3,00,000 = ₹ 6,00,000$$

Calculation of Quick Assets

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

$$\text{Quick Assets} = \text{Quick Ratio} \times \text{Current Liabilities}$$

$$= 1 \times ₹ 3,00,000 = ₹ 3,00,000$$

Inventory

$$\text{Inventory} = \text{Current Assets} - \text{Quick Assets}$$

$$= ₹ 6,00,000 - ₹ 3,00,000 = ₹ 3,00,000$$

Calculation of Bank Credit

$$\text{Bank Credit: Other Liabilities} = 2:1$$

$$\text{Total Current Liabilities} = ₹ 3,00,000$$

$$\text{Bank Credit} = ₹ 3,00,000 \times \frac{2}{3} = ₹ 2,00,000$$

3. (B) 1.25
Capital Gearing Ratio

$$= \frac{\text{Pref. Share Capital} + \text{Debentures} + \text{Other Borrowed Funds}}{\text{Equity Share Capital} + \text{Reserves and Surplus} - \text{Losses}}$$

$$= \frac{₹ 25 \text{ lakhs} + ₹ 50 \text{ lakhs} + ₹ 15 \text{ lakhs}}{₹ 48 \text{ lakhs} + ₹ 24 \text{ lakhs}}$$

$$= \frac{₹ 90 \text{ lakhs}}{₹ 72 \text{ lakhs}} = 1.25$$

4. (i) Operating Expenses

Net Profit = 8% on Sales = 8% x ₹ 3,60,00,000	₹ 28,80,000
Add: Income Tax = 40% x ₹ 28,80,000/60%	₹ 19,20,000
Profit Before tax	₹ 48,00,000
Add: Debenture Interest	₹ 3,36,000
Profit before interest and tax	₹ 51,36,000
Sales	₹ 3,60,00,000

Less:	
Cost of goods sold ₹ 1,44,00,000	
Profit before interest & tax ₹ 51,36,000	₹ 1,95,36,000
Operating Expenses	₹ 1,64,64,000

(ii) Share Capital and Reserves

Return on Net worth is 30%, hence profit after tax of ₹ 28,80,000 is equivalent to 30% of Net Worth.

$$\text{Net worth} \times 30/100 = ₹ 28,80,000$$

$$\text{Net Worth} = 28,80,000 \times 100/30 = ₹ 96,00,000$$

$$\text{Ratio of Share Capital to Reserves} = 6:4$$

$$\text{Share Capital} = ₹ 96,00,000 \times 6/10 = ₹ 57,60,000$$

$$\text{Reserves} = ₹ 96,00,000 \times 4/10 = ₹ 38,40,000$$

(iii) Closing Stock

$$\text{Inventory Turnover (based on cost of goods sold)} = 12$$

$$\text{Cost of goods sold} = ₹ 1,44,00,000$$

$$\text{Inventory Turnover Ratio} = \text{Cost of goods sold/Closing Stock} = 12$$

$$12 = ₹ 1,44,00,000/\text{Closing Stock}$$

$$\text{Therefore, Closing Stock} = ₹ 1,44,00,000/12$$

$$= ₹ 12,00,000$$

(iv) Fixed Assets

Calculation of Total liabilities

$$\text{Interest on 14 \% Debentures} = ₹ 3,36,000$$

$$\text{Therefore debentures} = \frac{₹ 3,36,000 \times 100}{14\%}$$

$$= ₹ 24,00,000$$

Total of Liabilities Side

Share Capital	₹ 57,60,000
Reserves	₹ 38,40,000
Debentures	₹ 24,00,000
Sundry Creditors	₹ 16,00,000
Total Liabilities	₹ 1,36,00,000

$$\text{Current Ratio} = 2:1$$

$$\text{Sundry Creditors} = ₹ 16,00,000$$

$$\frac{\text{Current Assets}}{\text{Current Liabilities}} = 2$$

$$\frac{\text{Current Assets}}{\text{Sundry Creditors}} = 2$$

$$\frac{\text{Current Assets}}{₹ 16,00,000} = 2$$

$$\text{Current Assets} = 2 \times ₹ 16,00,000$$

$$= ₹ 32,00,000$$

$$\text{Fixed Assets} = \text{Total Liabilities} - \text{Current Assets}$$

$$= ₹ 1,36,00,000 - ₹ 32,00,000$$

$$= ₹ 1,04,00,000$$

5. (i) **Let the cost of Equity be 'X' and Cost of Debt be 'Y'**

Calculation of WACC using Book value weights

Source of Capital	Cost of capital	Weights	WACC (K_o)
	(a)	(b)	(c) = (a) × (b)
Equity Share Capital	X	0.5	0.5X
Long term debts	Y	0.5	0.5Y
			11

Calculation of WACC using market value weights

Source of Capital	Cost of capital	MV Weights	WACC (K _o)
	(a)	(b)	(c) = (a) × (b)
Equity Share Capital	X	3/4 = 0.75	0.75X
Long term debts	Y	1/4 = 0.25	0.25Y
			11 + 1.5 = 12.5

$$0.5X + 0.5Y = 11 \quad \dots(1)$$

$$0.75X + 0.25Y = 12.5 \quad \dots(2)$$

Equating 1 & 2

$$K_e (X) = 14\%$$

Substituting X in Eqn. 1

$$0.5 \times 14 + 0.5Y = 11$$

$$7 + 0.5Y = 11$$

$$\text{Post tax } K_d (Y) = 8\%$$

$$(ii) \quad \text{Pre Tax Cost of Redeemable Debenture } (K_d) = \frac{I + \frac{(RV - NP)}{n}}{\frac{(RV + NP)}{2}}$$

Where,

I = Interest payment

NP = Net proceeds

RV = Redemption value of debentures

n = Remaining life of debentures

$$k_d = \frac{7 + \frac{(100 - 90)}{4}}{\frac{(100 + 90)}{2}}$$

$$k_d = \frac{7+2.5}{95}$$

$$\text{Pre Tax } K_d = 10\%$$

$$\text{Post tax } K_d = \text{Pre tax } K_d (1-T)$$

$$8\% = 10\%(1-T)$$

$$\text{Tax rate (T)} = 20\%$$

(iii) According to CAPM

$$\text{Cost of Equity (K}_e\text{)} = R_f + \beta (R_m - R_f)$$

Where,

$$K_e = \text{Cost of equity capital}$$

$$R_f = \text{Risk free rate of return}$$

$$\beta = \text{Beta coefficient}$$

$$R_m = \text{Rate of return on market portfolio}$$

$$(R_m - R_f) = \text{Market risk premium}$$

$$14\% = 8\% + \beta \times 6\%$$

$$\text{Beta coefficient} = 1$$

Working Note:

A Ltd

$$15.20 = R_f + 1.2R_p \quad \dots\dots(1)$$

B Ltd

$$12.80 = R_f + 0.8R_p \quad \dots\dots(2)$$

By solving Eqn. 1 & 2,

$$R_p = 6$$

$$\text{So Risk Premium} = 6\%$$

Substituting $R_p = 6$ in Eqn 1

$$15.20 = R_f + 1.2 \times 6\%$$

$$R_f = 15.20 - 7.20 = 8\%$$

Hence, Risk Free Return = 8%

$$R_p = R_m - R_f$$

$$6 = R_m - 8\%$$

$$R_m = 14\%$$

6. (a) Assuming no tax as per MM Approach.

Calculation of Value of Firms 'A Ltd.' and 'B Ltd' according to MM Hypothesis

Market Value of 'B Ltd' [Unlevered(u)]

$$\begin{aligned} \text{Total Value of Unlevered Firm (V}_u) &= [\text{NOI}/k_e] \\ &= 18,00,000/0.18 \\ &= ₹ 1,00,00,000 \end{aligned}$$

$$K_e \text{ of Unlevered Firm (given)} = 0.18$$

$$\begin{aligned} K_o \text{ of Unlevered Firm (Same as above)} &= k_e \text{ (as there is no debt)} \\ &= 0.18 \end{aligned}$$

Market Value of 'A Ltd' [Levered Firm (l)]

$$\begin{aligned} \text{Total Value of Levered Firm (V}_l) &= V_u + (\text{Debt} \times \text{Nil}) \\ &= ₹ 1,00,00,000 + (54,00,000 \times \text{nil}) \\ &= ₹ 1,00,00,000 \end{aligned}$$

**Computation of Equity Capitalization Rate and
Weighted Average Cost of Capital (WACC)**

	Particulars	A Ltd.	B Ltd.
A	Net Operating Income (NOI)	18,00,000	18,00,000
B	Less: Interest on Debt (I)	6,48,000	-
C	Earnings of Equity Shareholders (NI)	11,52,000	18,00,000
D	Overall Capitalization Rate (k_o)	0.18	0.18
E	Total Value of Firm ($V = \text{NOI}/k_o$)	1,00,00,000	1,00,00,000
F	Less: Market Value of Debt	54,00,000	-

G	Market Value of Equity (S)	46,00,000	1,00,00,000
H	Equity Capitalization Rate [$k_e = NI / S$]	0.2504	0.18
I	Weighted Average Cost of Capital [WACC] (k_o)	0.18	0.18

Assuming 40% taxes as per MM Approach
Calculation of Value of Firms 'A Ltd.' and 'B Ltd' according to MM Hypothesis Approach

Market Value of 'B Ltd' [Unlevered(u)]

$$\begin{aligned} \text{Total Value of unlevered Firm } (V_u) &= [\text{NOI} (1 - t) / k_e] \\ &= 18,00,000(1 - 0.40) / 0.18 \\ &= ₹ 60,00,000 \end{aligned}$$

$$K_e \text{ of unlevered Firm (given)} = 0.18$$

$$\begin{aligned} K_o \text{ of unlevered Firm (Same as above} &= k_e \text{ as there is no debt)} \\ &= 0.18 \end{aligned}$$

Market Value of 'A Ltd' [Levered Firm (l)]

$$\begin{aligned} \text{Total Value of Levered Firm } (V_L) &= V_u + (\text{Debt} \times \text{Tax}) \\ &= ₹ 60,00,000 + (54,00,000 \times 0.40) \\ &= ₹ 81,60,000 \end{aligned}$$

Computation of Weighted Average Cost of Capital (WACC) of 'B Ltd.'

$$= 18\% \text{ (i.e. } K_e = K_o \text{)}$$

**Computation of Equity Capitalization Rate and
Weighted Average Cost of Capital (WACC) of A Ltd**

Particulars	A Ltd.
Net Operating Income (NOI)	18,00,000
Less: Interest on Debt (I)	6,48,000

Earnings Before Tax (EBT)	11,52,000
Less: Tax @ 40%	4,60,800
Earnings for equity shareholders (NI)	6,91,200
Total Value of Firm (V) as calculated above	81,60,000
Less: Market Value of Debt	54,00,000
Market Value of Equity (S)	27,60,000
Equity Capitalization Rate [$k_e = NI/S$]	0.2504
Weighted Average Cost of Capital (k_o)*	13.23

*Computation of WACC A Ltd.

Component of Capital	Amount	Weight	Cost of Capital	WACC
Equity	27,60,000	0.338	0.2504	0.0846
Debt	54,00,000	0.662	0.072*	0.0477
Total	81,60,000			0.1323

$$*K_d = 12\% (1 - 0.4) = 12\% \times 0.6 = 7.2\%$$

$$WACC = 13.23\%$$

7. Optimal debt-equity composition

Let the weight of equity be W

Item	Cost	Weight	Product
Equity	12	W	12W
Debt	6	1 – W	6 – 6W
		1	9%

$$9 = 12W + 6 - 6W$$

$$3 = 6W$$

$$W = 0.5.$$

So, Weight of Equity is 0.50

So, Weight of Debt is $1 - 0.50 = 0.50$

Total Capital = 20 Lakhs. Hence, Debt and equity 10 Lakhs each.

Income Statement

Cost of debt =	6%	10%	12%
Sales	24,00,000	24,00,000	24,00,000
Less: Variable Costs (50%)	12,00,000	12,00,000	12,00,000
Contribution	12,00,000	12,00,000	12,00,000
Less: Fixed Costs (Given)	10,00,000	10,00,000	10,00,000
EBIT	2,00,000	2,00,000	2,00,000
Less: Interest	60,000	1,00,000	1,20,000
EBT / PAT	1,40,000	1,00,000	80,000
Return on Investment = EBIT/ Capital employed	10%	10%	10%
Return on equity = PAT / Equity Capital	14%	10%	8%

Leverages showing level of different risk

Leverages showing level of	Leverages	Computation	Dependent on	Indicates effect of ... on ...
Business risk	Operating Leverage (DOL)	$\text{Contribution} \div \text{EBIT}$ $= 12,00,000 \div 2,00,000$ $= 6$	Fixed Operating Costs	Sales on EBIT
Financial Risk	Financial Leverage (DFL)	$\text{EBIT} \div \text{EBT}$ $= 2,00,000 \div 1,40,000$ $= 1.43$	Fixed Financial Costs	EBIT on EPS
Combined Risk	Combined Leverage (DCL)	$\text{Contribution} \div \text{EBT}$ or $\text{DOL} \times \text{DFL} = 6 \times 1.43$ $= 8.58$	Both Fixed Operating & Fixed Financial Costs	Sales on EPS

Return on Investment = EBIT/ Capital employed

$$= 2,00,000/20,00,000 = 10\%$$

When the cost of 'fixed cost fund' is less than the return on investment, financial leverage will help to increase return on equity and EPS. The firm will also benefit from the saving of tax on interest on debts etc. However, when cost of debt will be more than the return it will affect return of equity and EPS unfavourably and as a result firm can be under financial distress. Therefore, financial leverage is also known as "**double edged sword**".

Effect on EPS and ROE:

When, ROI (10%) > Interest (6%) – Favourable – Advantage

When, ROI (10%) < Interest (12%) – Unfavourable – Disadvantage

When, ROI (10%) = Interest (10%) – Neutral – Neither advantage nor disadvantage

Income Statement

Cost of debt =	6%	10%	12%
Return on Investment = 10% of Equity	1,00,000	1,00,000	1,00,000
Surplus / Deficit from debt payments in %	10 – 6 = 4%	10 – 10 = 0	10 – 12 = - 2%
Surplus / Deficit from debt payments in INR = % of Debt	40,000	Nil	(20,000)
Return on Equity in INR = ROI + Surplus – Deficit	1,40,000	1,00,000	80,000
Return on Equity in % = Return on Equity in INR / Equity	14%	10%	8%

8. Calculation of PV of Tax savings under Straight line method (SLM)

Particulars	Result
Annual Depreciation	10 Lakhs / 4 Years = 2,50,000
PV of Tax savings on above	2,50,000 Lakhs x 25% x PVAF @ 10% i.e. 3.170 = 1,98,125

Calculation of PV of Tax savings under Units of Production (UOP)

Year	Depreciation	Tax savings	PVF @ 10%	PV of Tax Savings
1	1,00,000	25,000	0.909	22,725
2	2,00,000	50,000	0.826	41,300
3	3,00,000	75,000	0.751	56,325
4	4,00,000	1,00,000	0.683	<u>68,300</u>
				1,88,650

Let lease rental of 1st year be X

PV of after tax Lease rentals charged as per client's utilization pattern

Year	Lease rentals	After Tax Lease Rentals	PVF @ 10%	PV of Lease Rentals
1	X	0.75X	0.909	0.682X
2	2X	1.5X	0.826	1.239X
3	3X	2.25X	0.751	1.690X
4	4X	3X	0.683	<u>2.049X</u>
				5.660X

PV of after tax Lease rentals charged equally

Let annual lease rental be X

$$X \times (1 - 25\%) \times 3.17(\text{PVAF @ } 10\%) = 2.378X$$

Investment to be recovered from lease rentals

Particulars	In UOP Ratio		Equally	
	SLM	UOP	SLM	UOP
Investment	10,00,000	10,00,000	10,00,000	10,00,000
PV of Tax savings on Depreciation	1,98,125	1,88,650	1,98,125	1,88,650
Investment to be recovered	8,01,875	8,11,350	8,01,875	8,11,350
PV of after-tax Lease rentals	5.660X	5.660X	2.378X	2.378X
Lease rentals = X	1,41,674	1,43,348	3,37,206	3,41,190

Statement Showing PV of yearly lease rentals when charged in UOP Ratio

Year	Particulars	SLM	UOP
	Lease rentals = X	1,41,674	1,43,348
1	0.682X	96,622	97,763
2	1.239X	1,75,534	1,77,608
3	1.690X	2,39,429	2,42,258
4	<u>2.049X</u>	2,90,290	2,93,720
	PV of Total after tax lease rental	8,01,875	8,11,350

Statement Showing PV of yearly lease rentals when charged Equally

Year	Particulars	SLM	UOP
	Lease rentals = X	3,37,206	3,41,190
1	0.682X (0.909 × 0.75)	2,29,974	2,32,692
2	0.620X (0.826 × 0.75)	2,09,068	2,11,538
3	0.563X (0.751 × 0.75)	1,89,847	1,92,090
4	<u>0.512X (0.683 × 0.75)</u>	1,72,649	1,74,689
	PV of Total after tax lease rental	8,01,539*	8,11,009*

* Difference is due to rounding off in PVAF

9. Working Notes:

1. Raw Material Storage Period (R)

$$\begin{aligned}
 &= \frac{\text{Average Stock of Raw Material}}{\text{Annual Consumption of Raw Material}} \times 365 \\
 &= \frac{\text{₹ 45,000} + \text{₹ 65,356}}{2} \times 365 \\
 &= \frac{\text{₹ 3,79,644}}{\text{₹ 3,79,644}} \times 365 \\
 &= 53 \text{ days.}
 \end{aligned}$$

Annual Consumption of Raw Material

$$\begin{aligned} &= \text{Opening Stock} + \text{Purchases} - \text{Closing Stock} \\ &= ₹ 45,000 + ₹ 4,00,000 - ₹ 65,356 \\ &= ₹ 3,79,644 \end{aligned}$$

2. Work-in-Progress (WIP) Conversion Period (W)

$$\begin{aligned} \text{WIP Conversion Period} &= \frac{\text{Average Stock of WIP}}{\text{Annual Cost of Production}} \times 365 \\ &= \frac{\frac{₹ 35,000 + ₹ 51,300}{2}}{₹ 7,50,000} \times 365 \\ &= 21 \text{ days} \end{aligned}$$

3. Finished Stock Storage Period (F)

$$\begin{aligned} &= \frac{\text{Average Stock of Finished Goods}}{\text{Cost of Goods Sold}} \times 365 \\ &= \frac{₹ 65,178}{₹ 9,15,000} \times 365 = 26 \text{ days.} \\ \text{Average Stock} &= \frac{₹ 60,181 + ₹ 70,175}{2} \\ &= ₹ 65,178. \end{aligned}$$

4. Debtors Collection Period (D)

$$\begin{aligned} &= \frac{\text{Average Debtors}}{\text{Annual Credit Sales}} \times 365 \\ &= \frac{₹ 1,23,561.50}{₹ 11,00,000} \times 365 \\ &= 41 \text{ days} \\ \text{Average debtors} &= \frac{₹ 1,12,123 + ₹ 1,35,000}{2} = ₹ 1,23,561.50 \end{aligned}$$

5. Creditors Payment Period (C)

$$\begin{aligned}
 &= \frac{\text{Average Creditors}}{\text{Annual Net Credit Purchases}} \times 365 \\
 &= \frac{\left(\frac{\text{₹ } 50,079 + \text{₹ } 70,469}{2} \right)}{\text{₹ } 4,00,000} \times 365 \\
 &= 55 \text{ days}
 \end{aligned}$$

(i) Operating Cycle Period

$$\begin{aligned}
 &= R + W + F + D - C \\
 &= 53 + 21 + 26 + 41 - 55 \\
 &= 86 \text{ days}
 \end{aligned}$$

(ii) Number of Operating Cycles in the Year

$$= \frac{365}{\text{Operating Cycle Period}} = \frac{365}{86} = 4.244$$

(iii) Amount of Working Capital Required

$$= \frac{\text{Annual Operating Cost}}{\text{Number of Operating Cycles}} = \frac{\text{₹ } 9,50,000}{4.244} = \text{₹ } 2, 23,845.42$$

- 10. (a) International Funding:** With liberalization and globalization a business enterprise has options to raise capital from International markets also. Foreign Direct Investment (FDI) and Foreign Institutional Investors (FII) are two major routes for raising funds from foreign sources besides ADR's (American depository receipts) and GDR's (Global depository receipts). Obviously, the mechanism of procurement of funds has to be modified in the light of the requirements of foreign investors.

Angel Financing: Angel Financing is a form of an equity-financing where an angel investor is a wealthy individual who provides capital for start-up or expansion, in exchange for an ownership/equity in the company. Typically, angels, as they are known as, will invest around 25 to 60 per cent to help a company

get started. This source of finance sometimes is the last option for startups which doesn't qualify for bank funding and are too small for venture capital financing.

(b) The fundamental tasks for which treasury department of any enterprise is responsible are:

1. **Cash Management:** It involves efficient cash collection process and managing payment of cash both inside the organisation and to third parties.

Treasury will also manage surplus funds in an investment portfolio. Investment policy will consider future needs for liquid funds and acceptable levels of risk as determined by company policy.

2. **Currency Management:** The treasury department manages the foreign currency risk exposure of the company. In a large multinational company (MNC) the first step will usually be to set off intra-group indebtedness. The use of matching receipts and payments in the same currency will save transaction costs and also will save the organization from any unfavorable exchange movements.

The treasury will manage any net exchange exposures in accordance with company policy. If risks are to be minimized then forward contracts can be used either to buy or sell currency forward.

3. **Fund Management:** Treasury department is responsible for planning and sourcing the company's short, medium and long-term cash needs. They also facilitate temporary investment of surplus funds by mapping the time gap between funds inflow and outflow.

4. **Banking:** It is important that a company maintains a good relationship with its bankers. Treasury department carry out negotiations with bankers with respect to interest rates, foreign exchange rates etc. and act as the initial point of contact with them.

5. **Corporate Finance:** Treasury department is involved with both acquisition and divestment activities within the group. In addition, it will often have responsibility for investor relations.

(c) **Acceptance Rule of IRR method.**

The use of IRR, as a criterion to accept capital investment decision involves a comparison of IRR with the required rate of return known as cut-off rate.

If $IRR \geq$ Cut-off Rate or WACC	Accept the Proposal
If $IRR <$ Cut-off Rate or WACC	Reject the Proposal

6B: STRATEGIC MANAGEMENT



QUESTIONS

Multiple Choice Questions

1. EcoRide Motors, founded in Chennai in 2017, started as a small manufacturer of electric scooters targeted at environmentally conscious urban commuters. The company gained momentum when the government introduced FAME subsidies for EV adoption and rising fuel costs made electric mobility more attractive. Initially, EcoRide differentiated itself with sleek designs and strong battery life, which appealed to young professionals in metro cities.

As the EV industry became more competitive, EcoRide realized that success depended not only on product quality but also on an efficient value chain. The company focused on building close partnerships with battery suppliers, invested in efficient assembly lines, and created a network of after-sales service centers. This integrated approach gave EcoRide an edge in reliability and customer satisfaction.

In 2021, EcoRide attempted to enter the budget scooter market to expand its customer base. However, the move backfired as cost pressures affected margins, and established players already had stronghold in the low-price segment. Internally, this failure led to debates within the management team. The CEO adopted a transformational leadership style, motivating employees to view challenges as opportunities and encouraging cross-functional collaboration for innovation.

To restructure its portfolio, EcoRide introduced high-performance e-bikes for premium customers while continuing scooters for the mass market. Management positioned scooters as a potential Cash Cow in the

BCG matrix due to steady demand but low growth, whereas the e-bikes were considered Stars, expected to drive future growth in the expanding premium EV segment.

Recently, when the government announced stricter battery recycling norms, EcoRide faced resistance from dealers who feared higher compliance costs. At the same time, an environmental NGO emerged as a powerful stakeholder, urging EcoRide to adopt greener supply chain practices. The company recognized that managing stakeholder expectations would be critical for long-term sustainability.

Based on the above Case Scenario, answer the Multiple Choice Questions.

- (i) EcoRide's initial success was supported by external factors such as EV subsidies and rising fuel costs. Which specific environmental analysis tool should EcoRide use to systematically assess these factors, and why would it be more suitable than SWOT in this context?
 - (a) BCG Matrix
 - (b) PESTLE Analysis
 - (c) Porter's Five Forces
 - (d) Strategic Group Mapping
- (ii) By partnering with battery suppliers, improving assembly lines, and investing in service centers, EcoRide focused on strengthening its entire chain of operations. Which framework does this reflect and how does it add competitive advantage to the EV industry?
 - (a) Value Chain Analysis
 - (b) Experience Curve
 - (c) Ansoff's Growth Matrix
 - (d) McKinsey 7S Framework

- (iii) When EcoRide attempted to enter the budget scooter market but failed due to intense competition and thin margins, which of Porter's Five Forces best explains the challenge, and how did it affect profitability?
 - (a) Threat of Substitutes
 - (b) Bargaining Power of Suppliers
 - (c) Competitive Rivalry among Existing Firms
 - (d) Bargaining Power of Buyers
 - (iv) EcoRide categorized scooters as Cash Cows and e-bikes as Stars in its portfolio planning. According to the BCG Matrix, what does this imply about the resource allocation strategy the company should follow for each product?
 - (a) Harvest scooters & divest e-bikes
 - (b) Invest in scooters & maintain e-bikes
 - (c) Harvest scooters & invest in e-bikes
 - (d) Divest scooters & harvest e-bikes
 - (v) The rise of environmental NGOs and stricter recycling regulations highlight the importance of stakeholder management. Using Mendelow's Matrix, how should EcoRide position NGOs as stakeholders, and what type of engagement strategy would be most appropriate?
 - (a) Minimal Effort – monitor occasionally
 - (b) Keep Informed – provide regular updates
 - (c) Keep Satisfied – manage but not deeply involve
 - (d) Key Players – actively engage and collaborate
2. Rohan is a manager at "Z-Foods." His primary responsibility is to develop specific tactics for the marketing department to ensure that the "Quick-Snack" division achieves its market share targets. At which level of strategic management is Rohan functioning?
- (a) Corporate Level

- (b) Business Level
 - (c) Functional Level
 - (d) Administrative Level
3. In the smartphone industry, if a few large component manufacturers control the supply of specialized OLED screens and there are no viable alternative suppliers, the smartphone brands face high pressure from:
- (a) Bargaining power of buyers
 - (b) Threat of substitutes
 - (c) Bargaining power of suppliers
 - (d) Industry rivalry
4. Jayant oversees the 'Consumer Goods' segment of a large conglomerate. This specific segment has its own dedicated legal and finance heads who operate semi-autonomously from other segments like 'Industrial Parts'. This structure is an example of:
- (a) Simple Structure
 - (b) Matrix Structure
 - (c) Strategic Business Unit (SBU)
 - (d) Functional Structure
5. VitaGlow Naturals Ltd., a personal care company, launches a new herbal shampoo "HerbaSilk" that is sulphate-free, prevents hair fall and contains rare botanical extracts sourced from the Himalayas. Customers perceive it as superior to ordinary shampoos. The company prices HerbaSilk 25% higher than its regular shampoo range and sales rise strongly due to its perceived uniqueness. Identify the strategy adopted by VitaGlow Naturals Ltd.:
- (a) Cost leadership strategy
 - (b) Focus strategy
 - (c) Differentiation strategy
 - (d) Best-cost provider strategy

6. Rajesh Textiles Ltd., a leading fabric manufacturer, establishes MedCare Hospitals to enter the healthcare services industry, which has no technological or market linkage with its existing textile business. The management expects growth through sectoral expansion and risk spreading. This move represents which type of diversification?
- (a) Concentric diversification
 - (b) Conglomerate diversification
 - (c) Horizontal diversification
 - (d) Vertical diversification

Descriptive Questions**Chapter 1-Introduction to Strategic Management**

7. Ms. Kavya has been appointed as the CEO of GreenHarvest Foods Ltd., an organic food company that has diversified into plant-based nutrition products. The company plans to launch the NutriPure brand of plant-based protein foods. GreenHarvest aims to promote healthy lifestyles through nutritious, sustainable, and ethically sourced food products. Draft a suitable vision and mission statement that Kavya may formulate for NutriPure.
8. Mr. Vikram Patel owns a chain of ten bookstores across the Mumbai region. Three of these stores were launched in the past two years. He has always believed in strategic management and enjoyed robust sales of books, magazines, and educational materials until about five years ago. However, with the increasing preference for online shopping, the sales at his physical stores have declined by approximately sixty percent over the last five years. Analyze Vikram Patel's current position in light of the limitations of strategic management.

Chapter 2-Strategic Analysis: External Environment

9. Riya, the strategy manager of FreshSip Beverages Ltd., was studying the packaged fruit juice market in India before launching a new preservative-free juice brand. She observed that several established brands, low-priced local players, and substitute drinks like smoothies and flavored milk were competing intensely. Which aspect of external environment analysis is reflected in this situation?

10. How does the PESTLE framework assist in analyzing the macro-environment?

Chapter 3-Strategic Analysis: Internal Environment

11. Neha, the strategy head of UrbanRide Motors Ltd., was analysing the two-wheeler industry before launching a new premium electric scooter. She observed that firms in the market could be grouped based on price range (economy–premium) and technology (petrol–electric). She decided to position UrbanRide among premium electric brands. Which strategic analysis tool is reflected in this situation?
12. Write a short note on the key strategic drivers of an organization.

Chapter 4-Strategic Choices

13. Arvind, CEO of Stellar Electronics Ltd., decided that instead of depending only on consumer appliances, the company should enter the renewable energy equipment business to achieve long-term growth and reduce business risk. He proposed establishing a new division for solar panels and batteries. Which corporate strategy is reflected in this decision?
14. Explain the strategic implications of each of the following types of business in a corporate portfolio:
- (a) Stars, (b) Question Marks, (c) Cash Cows, (d) Dogs

Chapter 5-Strategy Implementation and Evaluation

15. FinEdge Services Ltd., a financial consulting firm, initiated a digital transformation programme to modernise its services. The management defined clear digital objectives, assessed existing manual processes and capability gaps, prepared a phased digital roadmap and implemented new technologies and work practices across all levels of the organization. Which concept of strategy implementation is reflected?
16. Write a short note on Matrix Structure.

**SUGGESTED ANSWERS/HINTS**

1. (i) (b) (ii) (a) (iii) (c) (iv) (c) (v) (d)

2. (c)

3. (c)

4. (c)

5. (c)

6. (b)

7. The **NutriPure** brand of plant-based nutrition products may have the following vision and mission:

Vision: Vision implies the blueprint of the company's future position. It describes where the organization wants to land.

Ms. Kavya should aim to position **NutriPure** as a trusted leader in plant-based nutrition. The vision may be "To be a leading plant-based nutrition brand that nourishes lives, supports holistic well-being, and inspires sustainable living."

Mission: Mission defines the firm's business purpose, goals, and approach to achieving them. It explains the reason for the company's existence. Ms. Kavya may articulate the mission as:

- To develop plant-based nutrition products that enhance health and vitality.
- To promote sustainable food choices through ethically sourced and natural ingredients.
- To support healthier communities by providing safe, nutritious and environmentally responsible food solutions.

8. Vikram Patel is facing declining sales due to a significant shift in customers toward online platforms. Although he employs strategic management tools, they cannot always overcome every obstacle or guarantee success. The limitations of strategic management in Vikram's situation include:

- The environment in which strategies are developed is highly complex and unpredictable. The entry of online bookstores, a new type of competitor, introduced a different dynamic to the book retail industry. These online platforms, with their extensive reach and pricing power, have dominated the market, posing a formidable challenge to traditional bookstores.
- Another limitation of strategic management is the difficulty in forecasting future developments. Despite his strategic management efforts, Vikram Patel did not anticipate the extent to which online bookstores would impact his sales.
- While strategic management is a time-consuming process, it is crucial for Vikram to continue managing strategically. These challenging times demand increased effort and adaptability on his part.
- Strategic management can be costly. Vikram Patel might consider hiring experts to understand customer preferences better and adjust his strategies to offer more personalized services. These customized offerings could be difficult for online stores to replicate, giving him a competitive edge.
- The bookstores owned by Vikram Patel are much smaller in scale compared to online stores. This makes it challenging for him to predict how online platforms will manoeuvre strategically.

9. The situation reflects the **competitive environment (industry environment)** aspect of external environment analysis.

The competitive environment consists of factors within the industry that influence a firm's competitive position, such as existing competitors, new entrants, substitutes, and pricing rivalry. As per strategic analysis, firms must evaluate industry structure and competitive forces before entering or expanding in a market.

In the given case, Riya observed the presence of many established brands, low-cost local players, and substitute beverages like smoothies and flavored milk. This indicates intense industry rivalry and strong threat from substitutes. Such conditions affect profitability and market entry decisions.

Therefore, FreshSip must assess competitive forces and develop appropriate strategies such as differentiation or cost competitiveness to succeed. Hence, the aspect reflected is the competitive (industry) environment of external analysis.

10. The PESTLE framework assists in analyzing the macro-environment by systematically evaluating six external factors that impact an organization's operations and strategy.
1. **Political Factors:** This includes government policies, regulations, political stability, and taxation. Understanding these factors helps organizations anticipate regulatory changes and government interventions that could affect their business environment.
 2. **Economic Factors:** This involves assessing economic conditions such as interest rates, inflation, exchange rates, and economic growth. These factors influence business costs, consumer purchasing power, and overall market conditions.
 3. **Social Factors:** This examines demographic trends, lifestyle changes, cultural norms, and consumer attitudes. Insights into social factors help businesses align their products and services with evolving consumer preferences and societal trends.
 4. **Technological Factors:** This includes technological advancements, innovation rates, and technological infrastructure. These factors impact production processes, product development, and competitive positioning.
 5. **Legal Factors:** This involves understanding business laws, employment regulations, health and safety standards, and compliance requirements. Legal factors are crucial for ensuring regulatory compliance and avoiding legal risks.

6. **Environmental Factors:** This covers ecological issues, sustainability practices, and environmental regulations. Awareness of environmental factors helps businesses adapt to climate change and meet sustainability goals.

By analyzing these factors, the PESTLE framework provides a comprehensive understanding of the macro-environment, helping organizations anticipate changes, adapt strategies, and make informed decisions.

11. The situation reflects the use of **Strategic Group Mapping**, an important tool of industry (competitive) environment analysis.

Strategic group mapping identifies clusters of firms within an industry that follow similar strategies or have similar characteristics, such as price level, quality, technology, distribution, or product range. Firms within the same strategic group compete more directly with each other than with firms in other groups.

In the given case, Neha classified two-wheeler firms based on price (economy to premium) and technology (petrol to electric). This classification creates distinct strategic groups such as economy petrol, premium petrol, economy electric, and premium electric. UrbanRide plans to position itself in the premium electric group.

Such mapping helps identify close competitors, market gaps, and positioning opportunities before strategic decisions. Hence, the strategic analysis tool reflected is Strategic Group Mapping.

12. Key Strategic Drivers of an Organization

Strategic drivers are essential elements that influence an organization's ability to differentiate itself from its competitors and achieve competitive advantage. These drivers assess the current performance of the business and provide insights into areas that need focus.

The key strategic drivers include:

1. **Industry and Markets:** Understanding the industry and markets is crucial for identifying the organization's relative position. Industries group similar companies based on their primary products, while markets are defined by the buyers and sellers of

these products. Analyzing industry and market dynamics, often through tools like strategic group mapping, helps organizations evaluate competition and refine strategies.

2. **Customers:** Identifying and understanding customers is a critical driver. Customers are segmented based on their needs and spending capacity, which guides product development and marketing strategies. Differentiating between customers (buyers) and consumers (users) is vital to tailoring pricing, design, and usability strategies effectively.
3. **Products and Services:** Products and services are central to defining the business. Organizations must assess their offerings, classify products, and devise strategies for differentiation, branding, and pricing. Product innovation and marketing are key to maintaining competitiveness.
4. **Channels:** The channels through which products and services are delivered impact on accessibility and customer satisfaction. Strategies related to direct, digital, or relationship-based marketing ensure the efficient distribution of offerings to target customers.

By aligning these drivers with organizational goals, businesses can achieve sustained growth and maintain a competitive edge.

13. The decision taken by Arvind reflects the **diversification strategy**, which is a corporate-level strategy.

Corporate level strategy is concerned with the choice of business, direction and scope of the organization as a whole. It addresses the fundamental issue of what businesses the organization should be in and how the overall business portfolio should be managed to achieve growth and stability.

Diversification strategy involves entry into new products or businesses that are different from the firm's existing operations. It is adopted to achieve growth, reduce risk arising from dependence on a single business and exploit new opportunities in the environment.

In the given case, Stellar Electronics Ltd., which was earlier operating in consumer appliances, proposes to enter the renewable energy equipment business such as solar panels and batteries by creating a new division. This represents expansion into a new business area beyond its present product line with the objective of long-term growth and risk reduction. Thus, the company is broadening its business portfolio by adding a new business, which is characteristic of diversification at the corporate level. Hence, the corporate strategy reflected is diversification strategy.

14. In the BCG growth-share matrix portfolio of investments are represented in two-dimensional space. The vertical axis represents market growth rate, and the horizontal axis represents relative market share. The strategic implications for various business types under BCG in the corporate portfolio are:

Stars are products or businesses that are growing rapidly and are the best opportunity for expansion. *Stars may follow the Build strategy.* They need heavy investments to maintain their position and finance their rapid growth potential.

Cash Cows are low-growth, high market share businesses or products. They generate cash and have low costs. They are established, successful, and need less investment to maintain their market share. *A strategic alternative advocated for cash cows is Harvest.*

Question Marks are low market share businesses in high-growth markets. *A strategic option for them is Hold for which they need heavy investments.* Question marks if left unattended are capable of becoming cash traps.

Dogs are low-growth, low-share businesses and products. *The relevant strategy is Divest.* Dogs may generate enough cash to maintain themselves, but do not have much future. Dogs should be minimized by means of divestment or liquidation.

15. The situation reflects **digital transformation supported by change management**, an aspect of strategy implementation.

Digital transformation refers to the use of digital technologies to develop new or improved business processes, services or operating models. Such transformation requires planned organizational change, which is enabled through change management.

Change management in the digital transition consists of four essential elements:

1. Defining the goals and objectives of the transformation
2. Assessing the current state of the organization and identifying gaps
3. Creating a roadmap for change that outlines the steps needed to reach the desired state
4. Implementing and managing the change at every level of the organization

In the given case, FinEdge defined digital objectives, assessed manual processes and capability gaps, created a phased roadmap and implemented new technologies and practices across all levels. These actions correspond to all four elements of digital transformation change management. Hence, the concept reflected is digital transformation through change management in strategy implementation.

- 16.** In matrix structure, functional and product forms are combined simultaneously at the same level of the organization. Employees have two superiors, a product/project manager and a functional manager. The "home" department - that is, engineering, manufacturing, or marketing - is usually functional and is reasonably permanent. People from these functional units are often assigned temporarily to one or more product units or projects.

The product units / projects are usually temporary and act like divisions in that they are differentiated on a product-market basis. The matrix structure may be very appropriate when organizations conclude that neither functional nor divisional forms, even when combined with horizontal linking mechanisms like strategic business units, are right for the implementation of their strategies. Matrix structure was developed to combine the stability of the functional structure with flexibility of the

product form. It is very useful when the external environment (especially its technological and market aspects) is very complex and changeable.

A matrix structure is most complex of all designs because it depends upon both vertical and horizontal flows of authority and communication. It may result in higher overhead costs due to more management positions.

The matrix structure is often found in an organization when the following three conditions exist:

1. Ideas need to be cross-fertilized across projects or products;
2. Resources are scarce; and
3. Abilities to process information and to make decisions need to be improved.