



SOMAIYA

VIDYAVIHAR UNIVERSITY

Dr. Shantilal K. Somaiya School of Commerce and Business Studies

QUESTION PAPERS

BRANCH: Bachelor of Commerce (Financial Market)	SEM: IV
	APR - 2026

Sr. No.	Subject	Available
1.	231U04C201 – Foreign Exchange Markets	
2.	231U04201 – Equity Research	
3.	231U04C403 – Direct Tax	
4.	231U04I401 – Data Analysis & Statistical Reasoning	
5.		
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BFM (B)
1/4/26
Sem - IV

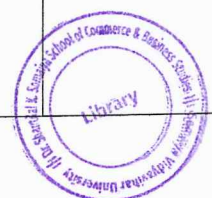


March 2026			
Examination: End Semester Examination (UG/PG Programmes)			
Programme code: 04		Class: SY	Semester: IV
Programme: Financial Markets			
Name of the Constituent College: Dr. Shantilal K. Somaiya School of Commerce and Business Studies		Name of the Department Accounting & Finance	
Course Code: 231U04C201	Name of the Course: Foreign Exchange Markets		
Duration : 2 Hrs.	Maximum Marks : 60		
Instructions: 1) Draw neat diagrams 2) Assume suitable data if necessary 3)			

Question No.		Max. Marks	Co Attainment
Q.1	<p>Read the given Case Study and Answer the Questions below:</p> <p>Shivam Textiles Pvt. Ltd., a Mumbai-based garment exporter, has recently expanded its business to the US and Europe. With increasing international transactions, the company is now exposed to various complexities of the foreign exchange market. Initially, Shivam Textiles relied on its domestic bank for forex transactions. However, with rising export orders, the firm decided to set up an in-house forex desk to manage currency dealings more efficiently. The management is trying to understand the role of different forex market participants such as commercial banks, RBI, and speculators, and how exchange rates are determined globally. While operating in India, the firm must comply with foreign exchange regulations under FEMA, and it follows guidelines issued by FEDAI for standard practices. However, it has also observed informal currency dealings in the hawala market, which sometimes offer better rates but involve legal and ethical risks. To execute international payments, Shivam Textiles uses SWIFT systems through its bank. The firm engages in spot market transactions for immediate payments but is exploring forex trading strategies and cross-rate calculations to optimize costs. The finance team is also analyzing the role of commercial banks in facilitating international payments and managing transaction costs. The company now seeks a deeper understanding of forex systems, Indian forex administration, and operational mechanisms to improve its global competitiveness.</p> <p>Questions:</p> <p>a) On behalf of Shivam Textiles, examine the functioning of various participants in the foreign exchange market.</p> <p>b) Discuss the regulatory framework governing foreign exchange transactions in India and evaluate the role of FEMA in shaping the operations of Shivam Textiles.</p> <p>c) Assess the role of commercial banks and payment mechanisms</p>	05 05 05	CO1, 2, 3



	useful for Shivam Textiles to conduct business smoothly		
Q.2			
a)	Trace the evolution of international monetary systems through gold standard system, Bretton Woods and Smithsonian agreement	15	CO1
	OR		
b)	A country is considering full capital account convertibility. Evaluate the potential benefits and risks of such a move in the context of a developing economy like India.	08	CO2
c)	FEDAI is a self-regulatory organization which brings about uniformity and efficiency in foreign exchange market operations. Do you agree? Justify your answer.	07	CO2
Q.3			
a)	Examine major participants, payment mechanisms and types of accounts used in international payment systems.	15	CO3
	OR		
b)	Highlight the forex trading platforms, trading mechanisms and infrastructure available in India.	07	CO3
c)	Evaluate the working and role of diverse international depository receipts and bonds as means of global capital transfer.	08	CO3
Q.4			
a)	Suppose you are given the following exchange rates: <ul style="list-style-type: none"> • EUR/USD = 1.25 • USD/INR = 92.50 • Quote for EUR/ INR given by ICICI bank (Bid= Rs. 98.20, Ask= Rs. 99.50) Questions: <ol style="list-style-type: none"> i) What is the direct and indirect quote for USD in India? ii) What is the direct and indirect quote for EUR in the US? iii) A trader wants to sell 5000 Euros for INR to ICICI bank. How much INR will he receive? iv) In the context of bid and ask, explain the concept of spread and calculate the spread from the Bid and Ask quotes given by ICICI Bank. 	07	CO4
b)	Examine triangular and geographical arbitrage using an example.	08	CO4
	OR		
c)	Describe the sources of risks and types of risk exposures in the context of foreign exchange markets, along with ways to manage them.	15	CO4



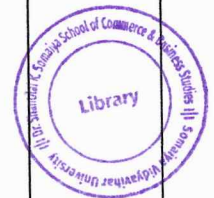


SOMAIYA
VIDYAVIHAR UNIVERSITY

B.F.M
Sem-IV
06 APR 2026

March 2026		
Examination: End Semester Examination March 2026 (UG Programme)		
Programme code: 04 Programme: Financial markets	Class: SYFM	Semester: III IV
Name of the School: Dr. Shantilal K Somaiya School of Commerce & Business Studies	Name of the Department: Accounting and finance	
Course Code: 231U04_201	Name of the Course: Equity research	
Duration : 1 Hr.	Maximum Marks : 20	
Instructions: 1) Use of calculator is allowed 2) Figures to the right indicate full marks		

Question No.		Max. Marks	CO				
Q1	Attempt the following questions	15					
a)	An investor is analysing shares of ABC Ltd. The intrinsic value calculated using financial modelling is ₹520 per share, while the current market price is ₹430. Questions: Determine whether the stock is overvalued or undervalued. Explain what investment decision should be taken and why. Briefly describe how intrinsic value helps investors make decisions.	5	CO1 and 2				
b)	An analyst reviews the balance sheet, income statement, and cash flow statement of Tata Motors before recommending investment. Questions: 1. Explain the purpose of analysing each financial statement. 2. Describe how these statements help assess company performance.	5	CO2				
c)	An investor estimates cost of equity using: Rf = 6%, Rm = 14%, Beta = 1.2 Questions: 1. Identify the valuation approach used. 2. Explain each component of the formula. 3. Describe how beta affects investment decisions.	5	CO3				
Q2							
A	<table border="1" style="width: 100%;"><tr><td style="text-align: center;">Factors</td><td style="text-align: center;">A ltd</td><td style="text-align: center;">B ltd</td><td style="text-align: center;">C ltd</td></tr></table>	Factors	A ltd	B ltd	C ltd	15	CO3
Factors	A ltd	B ltd	C ltd				



Ra (rate of return on retained earnings)	25%	20%	15%
Rc (cost of capital)	20%	20%	20%
E (Earning per share)	₹5	₹5	₹5
D (Dividend per share)	₹5	₹5	₹5

From the following particulars given in the table calculate the market share price using Walter's approach to dividend model. Also comment on all 3 companies dividend policy.

OR

B

ABC Manufacturing Ltd. is a mid-sized consumer electronics company that produces home appliances such as air coolers, mixers, induction stoves, and electric kettles. Over the past five years, the company built a strong reputation in regional markets due to affordable pricing and reliable product quality.

In the financial year 2024–25, the company reported a 15% increase in total revenue, rising from ₹800 crore to ₹920 crore. This growth was primarily driven by expansion into new Tier-2 and Tier-3 cities, introduction of two new product lines, and aggressive promotional campaigns across online platforms.

However, despite the increase in revenue, the company's net profit margin declined from 12% to 7%, and operating profit also showed only marginal growth compared to the previous year.

Further financial review revealed the following developments:

- Raw material costs increased by 18% due to supply chain disruptions and higher import prices.
- The company invested heavily in advertising and digital marketing campaigns.
- Employee expenses rose after hiring additional staff for expansion into new markets.
- Distribution expenses increased due to expansion into rural and semi-urban areas.
- The company reduced product prices slightly to compete with new entrants offering similar appliances at lower prices.
- Interest expenses increased because the company borrowed funds to finance warehouse expansion and logistics infrastructure.

Although management remains optimistic about future growth and expects profitability to improve over the next two years, some investors are concerned about the declining margins and rising operational costs.

Industry analysts suggest that the consumer electronics sector is becoming increasingly competitive, with several domestic and international brands entering the affordable appliances segment.

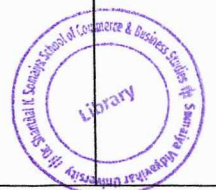
The company's share price initially increased after the announcement of higher revenue but later showed volatility following the release of the full financial results highlighting reduced profit margins.

Questions for Analysis

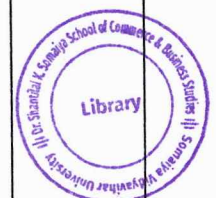
1. Interpret the financial performance of ABC Manufacturing Ltd. based on the increase in revenue but decline in profit margins.


15

CO3 &
CO4



	<p>2. Identify the possible reasons that may have contributed to the decline in the company's profit margins despite higher sales.</p> <p>3. As an investor, what actions would you recommend after analysing the company's financial situation? Support your answer with justification.</p>		
Q3			
A	<p>XYZ Ltd provides the following financial information for 2025:Income Statement Data:</p> <ul style="list-style-type: none"> • Revenue = ₹ 5,000,000 • Operating Expenses (excluding depreciation) = ₹ 3,200,000 • Depreciation = ₹ 300,000 • Interest Expense = ₹ 150,000 • Tax Rate = 25% <p>Balance Sheet Information:</p> <ul style="list-style-type: none"> • Net Fixed Assets increased from ₹ 2,000,000 to ₹ 2,600,000 • Current Assets increased by ₹ 400,000 • Current Liabilities increased by ₹ 150,000 <p>Required: Calculate FCF and FCFE</p>	15	CO4
	OR		
B	<p>ABC Ltd. is a manufacturing company operating in the automobile components industry. The company imports nearly 70% of its raw materials from foreign suppliers, especially specialized steel and semiconductor components. Recently, the company has started facing challenges due to:</p> <ul style="list-style-type: none"> • fluctuations in foreign exchange rates, • increasing import duties imposed by the government, • delays in global supply chains, and • geopolitical tensions affecting international trade routes. <p>As a result, the company's cost of production has increased significantly, and profit margins have declined over the past two quarters. Investors are concerned about whether the company will remain profitable in the long term.</p> <p>Questions</p> <ol style="list-style-type: none"> 1. Identify the type of risk involved. 2.Explain the impact on profitability. 3. Suggest mitigation strategies. 	15	CO1



Q4			
A	<p>Tesla, Inc. is planning to expand its electric vehicle (EV) operations into emerging markets such as India and Southeast Asia. The company is globally recognized for innovation in EV technology, autonomous driving systems, and battery efficiency.</p> <p>However, expansion into developing economies presents several challenges:</p> <ul style="list-style-type: none"> • High import duties on electric vehicles • Lack of charging infrastructure • Strong competition from domestic automakers • Government incentives promoting EV adoption • Increasing environmental awareness among consumers • Rising fuel prices encouraging EV demand <p>Tesla is evaluating whether entering these markets through local manufacturing partnerships would improve profitability and market penetration.</p> <ol style="list-style-type: none"> 1. Perform a SWOT Analysis 2. Perform a PESTLE Analysis 		
	OR		
B	<p>Ratio Analysis of Alpha Manufacturing Ltd.</p> <p>Financial Data (FY 2025)</p> <ul style="list-style-type: none"> • Revenue: ₹500 crore • Net Profit: ₹50 crore • Current Assets: ₹200 crore • Current Liabilities: ₹100 crore • Inventory: ₹80 crore • Total Debt: ₹150 crore • Shareholders' Equity: ₹250 crore • Total Assets: ₹400 crore <p>Ratios</p> <ul style="list-style-type: none"> • Current Ratio = 2.0 • Quick Ratio = 1.2 • Net Profit Margin = 10% • Return on Assets (ROA) = 12.5% • Return on Equity (ROE) = 20% • Debt-to-Equity Ratio = 0.6 • Inventory Turnover = 6.25 times <p>Question 1: Alpha Manufacturing Ltd. has a Current Ratio of 2.0 and a Quick Ratio of 1.2.</p> <ul style="list-style-type: none"> • What do these ratios suggest about the company's ability to meet short-term obligations? • Why might the Quick Ratio be considered a more conservative measure than the Current Ratio? <p>Question 2: The company's Return on Equity (ROE) is 20%, while its Debt-to-Equity</p>		

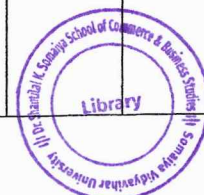
	<p>Ratio is 0.6.</p> <ul style="list-style-type: none"> • How does the debt level influence the ROE? • Do you think the company's capital structure is risky or balanced? Justify your answer using the ratios. <p>Question 3:</p> <p>Alpha's Inventory Turnover is 6.25 times per year.</p> <ul style="list-style-type: none"> • What does this ratio indicate about the company's inventory management? • How might this compare to industry benchmarks in manufacturing, and what could it imply if the turnover were significantly lower? <p>Question 4:</p> <p>The company's Net Profit Margin is 10% and its ROA is 12.5%.</p> <ul style="list-style-type: none"> • How do these ratios together reflect the company's ability to generate profit from both sales and assets? • If ROA were lower despite a healthy margin, what might that suggest about asset utilization? 		



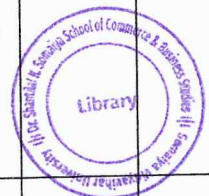


Semester (Nov 2026 to April 2026)		
Examination: End Semester Examination April 2026 (UG Programmes)		
Programme code: 04	Class: SY	Semester: IV
Programme: Financial Markets		
Name of the Constituent College: Dr. Shantilal K. Somaiya School of Commerce and Business Studies	Name of the Department: Accounting & Finance	
Course Code: 231U04C403	Name of the Course: Direct tax	
Duration : 2 Hrs.	Maximum Marks : 60	
Instructions: 1) Draw neat diagrams 2) Assume suitable data if necessary		

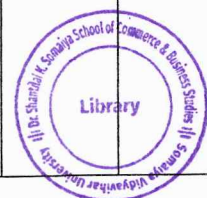
Question No.		Max. Marks	CO Attainment
Q.1. A	<p>Explain the following concepts (5 marks each)</p> <p>a. Mr. Amit is a salaried employee who has invested in various financial instruments during the financial year. He paid life insurance premiums for himself and his spouse, contributed to the Public Provident Fund (PPF), and repaid the principal amount of his housing loan. While preparing his income tax return, he wants to claim deductions for these investments.</p> <p>b. Ms. Neha received ₹1,50,000 as a gift from her uncle and ₹50,000 from her close friend on her birthday. She is unsure whether these gifts will be taxable while computing her total income under the Income-tax Act.</p> <p>c. Mr. Karan owns a residential house in which he lives with his family throughout the year. The property is not rented out and no rent is received from it. While filing his income tax return, he wants to understand how the income from this property will be computed under the head "Income from House Property."</p>	15	CO 4 CO 3 CO 2
Q.2. A	<p>Mr. Raj provides the following particulars of asset transferred by him during the previous year ended 31st March, 2025. You are required to compute his income from Capital Gains chargeable to tax for the Assessment Year 2025-26.</p>	15	CO 2



	<p>A Residential house in Madurai was purchased on 12th December, 2001 at a cost of ₹18,00,000.</p> <p>Further expenses on improvement of ₹6,00,000 were incurred on the above house during the financial year 2009–10.</p> <p>He sold the house on 26th March, 2025 for ₹1,24,50,000.</p> <p>He incurred transfer expenses of ₹1,00,000 on the sale transaction.</p> <p>He purchased 3 year bonds issued by Rural Electrification Corporation (REC) for ₹50,00,000 on 26th March, 2025.</p> <p>Cost Inflation Index</p> <table border="1"> <thead> <tr> <th>Financial Year</th> <th>Cost Inflation Index</th> </tr> </thead> <tbody> <tr> <td>2001–2002</td> <td>100</td> </tr> <tr> <td>2009–2010</td> <td>148</td> </tr> <tr> <td>2020–2021</td> <td>301</td> </tr> <tr> <td>2022–2023</td> <td>331</td> </tr> <tr> <td>2024–2025</td> <td>363</td> </tr> </tbody> </table>	Financial Year	Cost Inflation Index	2001–2002	100	2009–2010	148	2020–2021	301	2022–2023	331	2024–2025	363												
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Q.2. B	<p>Mr. X is a U.S.A. citizen. He came to India on October 15, 2024 for a visit and was in India till 31st March, 2025. In earlier previous years, he is in India as under :</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Days in India</th> </tr> </thead> <tbody> <tr> <td>2014-15</td> <td>188 days</td> </tr> <tr> <td>2015-16</td> <td>190 days</td> </tr> <tr> <td>2016-17</td> <td>185 days</td> </tr> <tr> <td>2017-18</td> <td>200 days</td> </tr> <tr> <td>2018-19</td> <td>40 days</td> </tr> <tr> <td>2019-20</td> <td>300 days</td> </tr> <tr> <td>2020-21</td> <td>195 days</td> </tr> <tr> <td>2021-22</td> <td>185 days</td> </tr> <tr> <td>2022-23</td> <td>100 days</td> </tr> <tr> <td>2023-24</td> <td>200 days</td> </tr> </tbody> </table> <p>Find out the residential status of Mr. X for the assessment year 2025-26 assuming that he is not a person of Indian origin.</p>	Year	Days in India	2014-15	188 days	2015-16	190 days	2016-17	185 days	2017-18	200 days	2018-19	40 days	2019-20	300 days	2020-21	195 days	2021-22	185 days	2022-23	100 days	2023-24	200 days	15	CO 1
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Q.3. A.	Mrs. Sharma is employed with M/s. Alliance Engineers Pvt. Ltd. She	15	CO 3																						



	<p>provides you the following information for the assessment year 2025–26:</p> <ol style="list-style-type: none"> 1. Net Salary per month – ₹19,050 2. Income Tax deducted at source per month – ₹200 3. Profession Tax deducted at source per month – ₹150 4. Provident Fund contribution deducted from salary per month – ₹600 5. L.I.C. premium deducted from salary per month – ₹1,000 6. Club fees met by employer – ₹6,000 7. Salary in lieu of leave – ₹6,000 8. She was given a car for her exclusive use during office hours only. <p>Compute on the basis of above information taxable income under the head “Salaries” of Mrs. Sharma for the assessment year 2025–26.</p>																																																														
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Q.3. B.	<p>Receipts & Payments A/c for the year ended 31st March, 2025</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: left;">Receipts</th> <th style="width: 10%; text-align: center;">₹</th> <th style="width: 50%; text-align: left;">Payments</th> <th style="width: 10%; text-align: center;">₹</th> </tr> </thead> <tbody> <tr> <td>To Balance B/f</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Cash-in-Hand</td> <td style="text-align: right;">1,500</td> <td>By Salaries</td> <td style="text-align: right;">44,000</td> </tr> <tr> <td> Cash-with-Bank</td> <td style="text-align: right;">3,000</td> <td>By Bonus to staff</td> <td style="text-align: right;">4,400</td> </tr> <tr> <td>To Consulting Fees</td> <td style="text-align: right;">1,85,000</td> <td>By Printing & Stationery</td> <td style="text-align: right;">13,600</td> </tr> <tr> <td>To Visit fees</td> <td style="text-align: right;">14,500</td> <td>By Rent of Clinic (paid to wife)</td> <td style="text-align: right;">12,000</td> </tr> <tr> <td>To Gift from patients</td> <td style="text-align: right;">6,000</td> <td>By Electricity</td> <td style="text-align: right;">11,150</td> </tr> <tr> <td>To Winnings from horse races</td> <td style="text-align: right;">10,000</td> <td>By Car expenses</td> <td style="text-align: right;">30,000</td> </tr> <tr> <td>To Amount received under Keyman Insurance Policy</td> <td style="text-align: right;">30,000</td> <td>By Drawings</td> <td style="text-align: right;">48,000</td> </tr> <tr> <td></td> <td></td> <td>By Donations</td> <td style="text-align: right;">18,000</td> </tr> <tr> <td></td> <td></td> <td>By Purchase of equipments</td> <td style="text-align: right;">12,000</td> </tr> <tr> <td></td> <td></td> <td>By Misc. Expenses</td> <td style="text-align: right;">12,000</td> </tr> <tr> <td></td> <td></td> <td>By Balance c/d</td> <td></td> </tr> <tr> <td></td> <td></td> <td> Cash-in-Hand</td> <td style="text-align: right;">2,600</td> </tr> <tr> <td></td> <td></td> <td> Cash with Bank</td> <td style="text-align: right;">42,250</td> </tr> </tbody> </table>	Receipts	₹	Payments	₹	To Balance B/f				Cash-in-Hand	1,500	By Salaries	44,000	Cash-with-Bank	3,000	By Bonus to staff	4,400	To Consulting Fees	1,85,000	By Printing & Stationery	13,600	To Visit fees	14,500	By Rent of Clinic (paid to wife)	12,000	To Gift from patients	6,000	By Electricity	11,150	To Winnings from horse races	10,000	By Car expenses	30,000	To Amount received under Keyman Insurance Policy	30,000	By Drawings	48,000			By Donations	18,000			By Purchase of equipments	12,000			By Misc. Expenses	12,000			By Balance c/d				Cash-in-Hand	2,600			Cash with Bank	42,250	15	
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	<p>1. ₹ 6,000/- is considered as a reasonable rent of the clinic.</p> <p>2. Misc. expenses are incurred for personal purposes.</p> <p>3. Donations are eligible for deduction u/s 80G.</p> <p>4. Half of the car expenses are for personal use.</p> <p>5. Depreciation allowable according to Income-tax Act is ₹ 4,000/-.</p> <p>Compute income from business or profession of Dr. Doshi for the assessment year 2025–26.</p>																					
Q.4. A.	<p>Mr. Anshuman Bansode works with Government of Maharashtra. He gives you the following information for the year ended 31st March, 2025.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Particulars</th> <th style="text-align: left;">Amount (Rs.)</th> </tr> </thead> <tbody> <tr> <td>Basic Salary (Gross)</td> <td>3,00,000 per annum</td> </tr> <tr> <td>Dearness allowance</td> <td>1,45,500 per annum</td> </tr> <tr> <td>House rent allowance (Exempt u/s 10 Rs. 30,000)</td> <td>60,000 per annum</td> </tr> <tr> <td>Entertainment Allowance (Amount spent on entertainment Rs. 12,000)</td> <td>12,000 per annum</td> </tr> <tr> <td>Conveyance Allowance (Amount spent on Conveyance for official purposes Rs. 28,000)</td> <td>48,000 per annum</td> </tr> <tr> <td>Arrears of Salary (Not taxed earlier)</td> <td>2,00,000</td> </tr> <tr> <td>Profession Tax deducted from Salary</td> <td>2,500 per annum</td> </tr> <tr> <td>Employees Provident Fund deducted from Salary</td> <td>30,000 per annum</td> </tr> </tbody> </table> <p>Other Information:</p> <p>He received Rs. 2,00,000 from LIC Of India as maturity value of life insurance policy taken on his life. He had taken a loan from State Bank of India for higher education of his daughter pursuing an engineering degree course of Delhi University. During the year he paid Rs. 50,000 as principal and Rs. 70,000 as interest.</p> <p>Compute his taxable income for the assessment year 2025-26</p>		Particulars	Amount (Rs.)	Basic Salary (Gross)	3,00,000 per annum	Dearness allowance	1,45,500 per annum	House rent allowance (Exempt u/s 10 Rs. 30,000)	60,000 per annum	Entertainment Allowance (Amount spent on entertainment Rs. 12,000)	12,000 per annum	Conveyance Allowance (Amount spent on Conveyance for official purposes Rs. 28,000)	48,000 per annum	Arrears of Salary (Not taxed earlier)	2,00,000	Profession Tax deducted from Salary	2,500 per annum	Employees Provident Fund deducted from Salary	30,000 per annum	15	CO 4
Particulars	Amount (Rs.)																					
Basic Salary (Gross)	3,00,000 per annum																					
Dearness allowance	1,45,500 per annum																					
House rent allowance (Exempt u/s 10 Rs. 30,000)	60,000 per annum																					
Entertainment Allowance (Amount spent on entertainment Rs. 12,000)	12,000 per annum																					
Conveyance Allowance (Amount spent on Conveyance for official purposes Rs. 28,000)	48,000 per annum																					
Arrears of Salary (Not taxed earlier)	2,00,000																					
Profession Tax deducted from Salary	2,500 per annum																					
Employees Provident Fund deducted from Salary	30,000 per annum																					
	OR																					



4 B

From the following income & Expenditure account of Dr. Kamble compute his total income for the assessment year 2025-26.

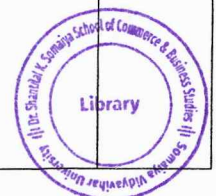
Income and expenditure account

	Rs.		Rs.
To Staff Salaries	1,20,000	By Consulting Fees	4,00,000
To Dispensary Expenses	67,500	By Visit Fees	1,00,000
To Dispensary Rent	60,000	By Gifts from Patients	40,000
To Purchase of Medicines	45,000	By Sale of Medicines at the dispensary	80,000
To Income Tax	35,000	By rent from House Property	1,20,000
To Professional Fees to Doctors	22,000		
To Car Expenses (For Profession)	36,400		
To Membership fees	2,000		
To Municipal Tax for Rental House	12,000		
To Interest on Housing Loan for Rented House	18,000		
To Printing Charges	4,000		
To Depreciation	48,000		
To Charity	1,500		
To Surplus for the year	2,68,600		
Total	7,40,000	Total	7,40,000

Additional Information:

1. Gifts from patients include Rs. 1,000 from his father in personal capacity
2. Depreciation as per Income Tax Rules Rs. 45,000
3. He paid medical insurance premiums of Rs. 8,000 by cheque.
4. He purchased National Saving Certificates of Rs. 30,000 & paid Life Insurance

CO 4



	<p>Premium of Rs. 60,000 (on a policy with capital sum assured amounting to Rs. 12,00,000 issued on 1-4-2016)</p> <p>5. He paid Rs. 20,000 to Nationalized Bank towards Principal of Housing Loan.</p>		
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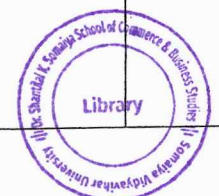


10 APR 2026



March 2026		
Examination: End Semester Examination (UG Programme)		
Programme code: 04	Class: SY	Semester: IV
Programme: Financial Markets		
Name of the Constituent College: Dr. Shantilal K Somaiya School of Commerce & Business Studies		Name of the Department: Accounting and Finance
Course Code: 231U041401	Name of the Course: Data Analysis and Statistical Reasoning	
Duration : 2 Hr.	Maximum Marks : 60	
Instructions: 1) All questions are compulsory 2) Figures to the right indicate full marks 3) Use of simple calculator is allowed. 4) Normal, Chi-square and F statistics distribution tables will be provided on request.		

Question No.	Question	Max. Marks	CO																								
Q1	Answer following questions	15	1-4																								
1.	Elaborate various types of statistical data.																										
2.	Find covariance matrix for following data <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <tr> <td>x</td> <td>15</td> <td>16</td> <td>12</td> <td>11</td> <td>10</td> <td>12</td> </tr> <tr> <td>y</td> <td>16</td> <td>12</td> <td>11</td> <td>14</td> <td>16</td> <td>17</td> </tr> </table>	x	15	16	12	11	10	12	y	16	12	11	14	16	17												
x	15	16	12	11	10	12																					
y	16	12	11	14	16	17																					
3.	In a survey of 500 people shopping at a mall, it was found that 350 used credit cards. Find 90% and 95% confidence intervals for population proportion.																										
Q2 a)	Find 4 yearly moving averages and plot data graphically, <table border="1" style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>Sales</th> </tr> </thead> <tbody> <tr><td>1980</td><td>242</td></tr> <tr><td>1981</td><td>250</td></tr> <tr><td>1982</td><td>253</td></tr> <tr><td>1983</td><td>249</td></tr> <tr><td>1984</td><td>254</td></tr> <tr><td>1985</td><td>256</td></tr> <tr><td>1986</td><td>250</td></tr> <tr><td>1987</td><td>257</td></tr> <tr><td>1988</td><td>262</td></tr> <tr><td>1989</td><td>268</td></tr> <tr><td>1990</td><td>260</td></tr> </tbody> </table>	Year	Sales	1980	242	1981	250	1982	253	1983	249	1984	254	1985	256	1986	250	1987	257	1988	262	1989	268	1990	260	08	2
Year	Sales																										
1980	242																										
1981	250																										
1982	253																										
1983	249																										
1984	254																										
1985	256																										
1986	250																										
1987	257																										
1988	262																										
1989	268																										
1990	260																										
Q2 b)	Assume normal distribution with mean=16 and standard deviation=2.5 a) What percentage of distribution is greater than 19. b) What percentage of distribution is between 12 and 17.	07	2																								
OR																											
Q2	The following data represents marks (out of 10) scored by SYBFM A and SYBFM B in two subjects Research methodology (RM) and Data Analysis (DA). Can we say that there is no significant difference in the performance of both divisions A and B? check at 5% level of significance.	15	2																								



SYBFMA		SYBFM B	
RM	DA	RM	DA
9	10	10	9
8	8	6	10
5	9	4	8
7	7	8	10
7	8	7	9

Q3 a)

A certain drug is claimed to be effective in curing cold. In an experiment on 500 people with cold, half of them were given the drug and half of them were given the sugar pills. The patient's reactions to the treatment are recorded in the following table:

	Helped	Harmed	No effect
Drug	150	30	70
Sugar pills	130	40	80

Based on data can it be concluded that there is significant difference in the effect of the drug and the sugar pills? Test at 5% level of significance.

08

3

Q3 b)

Two brands of bulbs are quoted at the same price. A buyer tested random samples of 100 bulbs of each brand and found the following results:

	Average life (in hours)	Standard deviation (in hours)
Brand 1	1304	90
Brand 2	1244	82

Is there a significant difference in their average life? Check at 1% level of significance.

07

3

OR

Q3

A set of five coins tossed 100 times, and the number of heads obtained each time is observed.

No. of heads	0	1	2	3	4	5
frequency	1	10	20	36	23	10

Fit binomial distribution and Test whether the fit is good? At 1% level of significance.

15

3



Q4	For the following data estimate y when x=78 also estimate x when y=94											15	4
	X	75	80	93	65	87	71	98	68	89	77		
	Y	82	78	86	72	91	80	95	72	89	74		
	OR												
Q4 a)	If two regression lines are $5x+2y-104=0$ and $3x+y-60=0$ find mean values of x and y also find r.											08	4
Q4 b)	Find coefficient of correlation											07	4
	X	5	8	10	12	8	12	15	13	10	6		
	Y	8	7	12	11	10	11	12	10	9	8		

