

SOMAIYA

VIDYAVIHAR UNIVERSITY

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

QUESTION PAPERS

BRANCH: Master of Commerce (Accounting & Finance)	SEM: I
	NOV-2024

Sr. No.	Subject	Available
1.	Direct Tax	
2.	231P25C103 – Advanced Research Methodology	
3.	231P25E101 – Operations Research	
4.	231P25K102 – Research Statistical Analysis	
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		



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SOMAIYA
VIDYAVIHAR UNIVERSITY


Semester (July 2024 to October 2024)

Examination: End Semester Examination October/November 2024 (UG/PG Programmes)

Programme code:		Class: FYMAF	Semester: I
Programme:			
Name of the Constituent College:		Name of the Department	
	S.K.Somaiya College	Accounting and Finance	
Course Code:		Name of the Course: Direct Tax	
Duration : 2 Hrs.		Maximum Marks : 60	
Instructions: 1) Figures to right indicate full marks 2) use simple calculator is allowed			

Q. No.		Max. Marks	CO																																																
Q.1	<p>Ajay, Vijay and Sanjay contacted you to seek advice on profitability of their Partnership Firm for the year ended on 31.3.2024</p> <table><tr><td></td><td>Particulars</td><td>Amount</td></tr><tr><td></td><td>Gross Profit</td><td>8,25,000</td></tr><tr><td></td><td>Interest on Securities</td><td>50,000</td></tr><tr><td></td><td>Total</td><td>8,75,000</td></tr><tr><td>Less:</td><td>Expenses</td><td></td></tr><tr><td></td><td>Salaries of Staff</td><td>3,50,000</td></tr><tr><td></td><td>Salaries to Partners</td><td>1,20,000</td></tr><tr><td></td><td>Repairs charges</td><td>25,000</td></tr><tr><td></td><td>Advertisement</td><td>15,000</td></tr><tr><td></td><td>Depreciation</td><td>18,500</td></tr><tr><td></td><td>Income Tax</td><td>12,500</td></tr><tr><td></td><td>Goods and service Tax</td><td>15,000</td></tr><tr><td></td><td>Interest on Capital of partners</td><td>45,000</td></tr><tr><td></td><td>Printing and Stationary</td><td>12,000</td></tr><tr><td></td><td>Total Expenses</td><td>6,13,000</td></tr><tr><td></td><td>Net Profit c/d</td><td>2,62,000</td></tr></table> <p>a) Ajay, Vijay and Sanjay are equal partners sharing profits and losses equally.</p> <p>b) Salary is paid to all partners in equal proportion</p> <p>c) Interest on capital is equally paid to all partners @ 15% p.a.</p> <p>d) Out of Advertisement expenses an amount of Rs. 3,000 is spent on advertisement in a magazine of Political Party.</p> <p>e) Depreciation allowable u/s 32 of Income tax act is Rs. 21,000</p> <p>They want to find out tax liability payable by the partnership firm and their individual income.</p>		Particulars	Amount		Gross Profit	8,25,000		Interest on Securities	50,000		Total	8,75,000	Less:	Expenses			Salaries of Staff	3,50,000		Salaries to Partners	1,20,000		Repairs charges	25,000		Advertisement	15,000		Depreciation	18,500		Income Tax	12,500		Goods and service Tax	15,000		Interest on Capital of partners	45,000		Printing and Stationary	12,000		Total Expenses	6,13,000		Net Profit c/d	2,62,000	(15)	CO 1,3
	Particulars	Amount																																																	
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	Total Expenses	6,13,000																																																	
	Net Profit c/d	2,62,000																																																	
Q.2	<p>A) Ms. Ketki provides you following information for the year 2023-24. She is the owner of two house properties as per following details:</p> <table><tr><td>Particulars</td><td>Property Orchid</td><td>Property Lotus</td></tr><tr><td>Municipal Taxable Value</td><td>5,50,000</td><td>7,80,000</td></tr><tr><td>Fair Rental Value</td><td>5,75,000</td><td>7,50,000</td></tr><tr><td>Rent Received/receivable</td><td>50,000 pm</td><td>Nil</td></tr></table>	Particulars	Property Orchid	Property Lotus	Municipal Taxable Value	5,50,000	7,80,000	Fair Rental Value	5,75,000	7,50,000	Rent Received/receivable	50,000 pm	Nil	(8)	CO1																																				
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Fair Rental Value	5,75,000	7,50,000																																																	
Rent Received/receivable	50,000 pm	Nil																																																	

Municipal Taxes		
- Paid for 22-23	10,000	--
- Paid for 23-24	15,000	18,000
- Payable for 23-24	5,000	12,000
Interest on Loan for construction of house properties	65,500	85,000
Ground rent	15,000	8,000
Repairs charges	18,500	9,500
Annual Charge	12,000	500

Determine his taxable house property income and tax liability for the Assessment year 2024-25.

Q.2.

B)

Smt. Ushalata provides following details of her income for the year ended on 31.3.2024.

- Family Pension received Rs. 15,000 p.m.
- She is residing in rented property for which she is paying a rent of Rs. 20,000 p.m. to the owner of property. 50% portion of this property she let out to her friend at a monthly rent of Rs. 15,000
- She invested following amounts during the year:
 - Rs. 3,00,000 – 10% Fixed Deposit with Ultra sound ltd on 1.4.23
 - Rs. 2,00,000 in 8% Debentures of Ashwin Ltd.
- She is in the receipt of Preference and Equity dividend of Rs. 11,500
- She let out plant and machinery @ Rs. 10,000 p.m. from 1.10.2023 and incurrent repairs charges of Rs. 12,500, insurance charges paid for P & M Rs 5,500

Determine taxable income and tax liability for the Assessment Year 2024-25

OR

Q.2

C)

Explain the steps in Filing of ITR 3 for the Assessment year 2024-25 in detail.

(7)

CO2

D)

- Calculate the amount of Deduction available for company U/s 80JJAA from the following information:

- 50 employees appointed on 1.3.2023 @ a emolument of Rs. 22,500
- 100 employees appointed on 1.5.2023 on a monthly emolument of Rs. 30,000
- 30 employees appointed on 1.7.2023 on a monthly emolument of Rs. 21,000
- 40 employees appointed on 1.10.2023 on a monthly emolument of Rs. 20,000

- Find out the amount of Scientific research expenditure allowed Under Section 35 of the Income Tax Act, 1961 from the following details
Scientific Research expenditure of Rs. 9,50,000 debited to Profit and Loss account which includes:

- An amount of Rs. 3,00,000 is incurred for installation of new machinery for the purpose of research
- An amount of salaries paid to Reserchers Rs. 1,50,000 in 2022-23, Rs. 2,50,000 in 2023-24
- Paid Balance amount to National Laboratory for the purpose of carrying out scientific research.

(8)

CO2

Q.3

A)

Mr Arjun Provides you the following details of the income earned by him from salaries. He is working with Keke Ltd during the year 2023-24

- Basic Salary Rs. 35,000 p.m. (from 1.4.23 to 31.8.23)
- Basic Salary Rs. 40,000 p.m. (From 1.9.23 to 31.3.24)
- Dearness allowance @ 45% of basic
- Bonus declared Rs. 85,000
- Medical allowance Rs. 5,000 p.m.
- Entertainment Allowance Rs. 4,000 p.m. (Actual Expenditure Rs. 30,000)
- He was provided with Rent free furnished accommodation at Ghatkopar. Original cost of Furniture on 1.1.2020 was Rs. 7,00,000 and WDV on 1.4.2023 was Rs. 5,65,000

Other Details provided by him for the year 2023-24

- Interest received on Saving Bank Account Rs. 9,580
- Interest on Securities Rs. 5,000
- He invested Rs. 80,000 in PPF
- He donated Rs. 10,000 to Prime Minister National Relief Fund

Determine his taxable income and tax liability for the Assessment Year 2024-25

(15)

CO3



Q.3

B)

Following is the Profit and Loss Account of Ram Ltd for the year ended on 31.3.2024

Particulars	Amount	Particulars	Amount
To Salaries and Wages	7,50,000	By Sales	48,00,000
To Postage	40,000	By Amount	
To Telephone expenses	50,000	withdrawn	
To Depreciation	5,00,000	from General	
To Income Tax	4,00,000	Reserve	3,00,000
To Wealth Tax	10,000		
To Excise Duty due	1,00,000		
To Provision for future			
Losses	60,000		
To Proposed Dividend	80,000		
To Loss of Subsidiary			
Company	50,000		
To Audit Fees	25,000		
To Directors Remuneration	8,00,000		
To Deferred Tax liability	1,35,000		
To Net Profit	21,00,000		
	51,00,000		51,00,000

Additional Information:

- The excise duty due on 31.3.24 was paid on 02.12.2024
- Custom duty of Rs 1,20,000 which was due on 31.3.2022 was paid during the financial year 2023-24
- Depreciation as per income tax Act is Rs. 11,43,000
- The company wants to set off following losses

	For Tax Purpose	For Accounting Purpose
Brought forward loss of the year 2022-23	12,00,000	10,00,000
Unabsorbed Depreciation	3,00,000	3,00,000

Find out Total income and tax liability of the company for the Assssment Year 2023-24

(15)

CO3

Q.4 A)	Explain the Power of Income tax authorities in detail under income tax Act, 1961 OR	(15)	CO4
Q.4. B)	Explain the ICDS – VIII related to Securities (Accounting of Investments)	(7)	CO5
C)	Mr. Umesh is a supplier from Andheri-Mumbai. He engaged in a business of readymade garments. He wants to supply 1,000 shirts @ Rs. 1,000 per shirt to Mr. Mehta at Gujrat through E-Commerce Operator-Snap Deal. Mr. Mehta returned 200 shirts as they are not as per specifications provided. Snap Deal charges commission @10% on Net Sales. The rate of GST is 18% under CGST Act. TDS is to be deducted @1% on payment due to Mr. Umesh and TCS under GST Act, is 1%. Find out the Net amount payable by flipkart to Mr. Umesh.	(8)	CO5

ATKT March 2025

M-Com ~~M~~ B + F

M-Com A + F

Sem I NEP 27/3/25



SOMAIYA
VIDYAVIHAR UNIVERSITY



November 2024

Examination: End Semester Examination (UG/PG Programmes)

Programme code: 25/24		Class: FYMAF/FYMBF	Semester: I
Programme: Accounting and Finance/ Banking & Finance			
Name of the Constituent College: S K Somaiya College		Name of the Department: Accounting & Finance	
Course Code: 231P25C103/231P24N101	Name of the Course: Advanced Research Methodology		
Duration: 1hr and 30 Min	Maximum Marks: 40		
Instructions: 1) Draw diagrams whenever necessary with pencil 2) Assume suitable data if necessary			

Question No.	ATTEMPT ANY FOUR QUESTIONS OUT OF FIVE. ALL QUESTIONS CARRY EQUAL MARKS	Max. Marks	CO Attainment
Q.1	a.Enumerate selection and formulation of Research problem .	5	CO1,CO4
	b.Explain the difference between Quantitative and Qualitative research.	5	CO2,CO3
Q.2	Analyse the type of research by Objective and process in detail.	10	CO1
Q.3	Discuss the methods of collecting Primary data in detail.	10	CO2
Q.4	<p>Excerpt:</p> <p>In recent years, advancements in technology have significantly reshaped the field of accounting. Automation tools and artificial intelligence (AI) are transforming traditional accounting practices by streamlining processes such as bookkeeping, payroll management, and financial reporting. These technologies allow firms to reduce manual errors, enhance efficiency, and focus more on strategic decision-making. Cloud-based accounting systems have also enabled real-time financial data access, fostering better collaboration between businesses and their accountants.</p> <p>However, this rapid adoption of technology comes with challenges. The risk of cybersecurity threats, data breaches, and compliance with evolving regulations are pressing concerns. Additionally, the shift toward automation raises questions about the future roles of accountants, particularly in smaller firms where resources for upskilling may be limited. Despite these hurdles, the integration of technology into accounting offers unprecedented opportunities for accuracy, cost reduction, and predictive analytics, paving the way for more strategic financial management in organizations worldwide."</p>	10	CO3 and CO4

	<p>You are required to create a well-structured research design and include the following components:</p> <ul style="list-style-type: none"> a. Title b. Abstract (150-200 words) c. Research Objectives d. Research Questions e. Hypothesis f. Methodology 		
Q.5	Define research design and explain the steps in research design.	10	CO2

ATKT March 2024

25.3.2025

UG II.

M-A-F.


SOMAIYA
 VIDYAVIHAR UNIVERSITY


Semester November 2024

Examination: End Semester Examination November 2024 (PG Programmes)

Programme code:02

Programme: Masters of Accounting and Finance

Class:

F.Y.M.A.F

Semester: I

Name of the Constituent College:

S K SOMAIYA COLLEGE

Name of the Department :

ACCOUNTING AND FINANCE

Course Code: 231P25E101

Name of the Course: OPERATIONS RESEARCH

Duration : 2 Hrs.

Maximum Marks : 60

Instructions: 1) Draw neat diagrams 2) Assume suitable data if necessary

Question No.		Max. Marks	Co Attainment																													
Q.1A	<p>A factory manager is thinking of giving 4 jobs to 4 workers. The job worker combination cost is given below.</p> <table><tr><th rowspan="2">Jobs</th><th colspan="4">Workers</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>1</td><td>500</td><td>620</td><td>140</td><td>440</td></tr><tr><td>2</td><td>260</td><td>200</td><td>80</td><td>380</td></tr><tr><td>3</td><td>120</td><td>80</td><td>140</td><td>200</td></tr><tr><td>4</td><td>260</td><td>140</td><td>80</td><td>500</td></tr></table> <p>Find the optimum assignment and the total cost of this assignment.</p>	Jobs	Workers				A	B	C	D	1	500	620	140	440	2	260	200	80	380	3	120	80	140	200	4	260	140	80	500	(5)	CO2
Jobs	Workers																															
	A	B	C	D																												
1	500	620	140	440																												
2	260	200	80	380																												
3	120	80	140	200																												
4	260	140	80	500																												
Q.1.B.	<p>Obtain a network diagram for following activities of a project:</p> <table><tr><th>Activity</th><th>1-2</th><th>1-3</th><th>2-3</th><th>2-4</th><th>3-4</th><th>4-5</th></tr><tr><th>Duration</th><td>20</td><td>25</td><td>10</td><td>12</td><td>6</td><td>10</td></tr></table> <p>Also identify the critical path for project and project completion time.</p>	Activity	1-2	1-3	2-3	2-4	3-4	4-5	Duration	20	25	10	12	6	10	(5)	CO4															
Activity	1-2	1-3	2-3	2-4	3-4	4-5																										
Duration	20	25	10	12	6	10																										
Q.1.C.	<p>ABC Ltd. manufactures two products P and Q. Profit per unit for P and Q is Rs 40 and Rs 80 respectively. One unit of P requires 2 machines hours and one unit of Q requires 3 machines hours. Availability of machine hours is 48. Maximum market demand for P is 15 units and for Q is 10 units. Formulate as LPP</p>	(5)	CO3																													
Q.2.A.	<p>Ram Enterprises manufactures product in three factories located at three different areas and transports the finished goods to cities A ,B and C . Cost per unit of transportation is given below. Determine the optimum transportation schedule :</p> <table><tr><th>From</th><th colspan="3">To</th><th rowspan="2">Supply</th></tr><tr><th></th><th>A</th><th>B</th><th>C</th></tr><tr><td>F-1</td><td>5</td><td>4</td><td>10</td><td>80</td></tr><tr><td>F-2</td><td>3.5</td><td>4.5</td><td>7.5</td><td>90</td></tr><tr><td>F-3</td><td>8.5</td><td>5.5</td><td>7.5</td><td>110</td></tr><tr><td>Demand</td><td>60</td><td>70</td><td>150</td><td>280</td></tr></table> <p style="text-align: center;">OR</p>	From	To			Supply		A	B	C	F-1	5	4	10	80	F-2	3.5	4.5	7.5	90	F-3	8.5	5.5	7.5	110	Demand	60	70	150	280	(15)	CO2
From	To			Supply																												
	A	B	C																													
F-1	5	4	10	80																												
F-2	3.5	4.5	7.5	90																												
F-3	8.5	5.5	7.5	110																												
Demand	60	70	150	280																												

Q.2.B.	Solve by simplex method : Maximize $Z = 5x + 3y$ Subject to $5x + y \leq 30$ $3x + 2y \leq 36$ $x, y \geq 0$	(15)	CO1																														
Q.3.A.	Solve the following two player game by using maximin principle and obtain the saddle point: <table><tr><td></td><th colspan="4">Player B</th></tr><tr><td></td><th>B1</th><th>B2</th><th>B3</th><th>B4</th></tr><tr><th>Player A</th><td></td><td></td><td></td><td></td></tr><tr><td>A1</td><td>-5</td><td>3</td><td>1</td><td>10</td></tr><tr><td>A2</td><td>5</td><td>5</td><td>4</td><td>6</td></tr><tr><td>A3</td><td>4</td><td>-2</td><td>0</td><td>-5</td></tr></table>		Player B					B1	B2	B3	B4	Player A					A1	-5	3	1	10	A2	5	5	4	6	A3	4	-2	0	-5	(05)	CO3
	Player B																																
	B1	B2	B3	B4																													
Player A																																	
A1	-5	3	1	10																													
A2	5	5	4	6																													
A3	4	-2	0	-5																													
Q.3.B.	Britannia Bakery sells confectionery items. Past data of demand per week in hundred kilograms with frequency is given below: <table><tr><td>Demand/Week</td><td>0</td><td>5</td><td>10</td><td>15</td><td>20</td><td>25</td></tr><tr><td>Frequency</td><td>2</td><td>11</td><td>8</td><td>21</td><td>5</td><td>3</td></tr></table> Using the following sequence of random numbers, generate the demand for the next 10 weeks. Also find out the average demand per week. <table><tr><td>Random numbers</td><td>35</td><td>52</td><td>13</td><td>90</td><td>23</td></tr><tr><td>Random numbers</td><td>73</td><td>34</td><td>57</td><td>89</td><td>15</td></tr></table> OR	Demand/Week	0	5	10	15	20	25	Frequency	2	11	8	21	5	3	Random numbers	35	52	13	90	23	Random numbers	73	34	57	89	15	(10)	CO3				
Demand/Week	0	5	10	15	20	25																											
Frequency	2	11	8	21	5	3																											
Random numbers	35	52	13	90	23																												
Random numbers	73	34	57	89	15																												
Q.3.C.	Find the sequence that minimized the total elapse time for following jobs to be processed on machines M-I and M-II <table><tr><td>Jobs</td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td></tr><tr><td>M-I</td><td>2</td><td>5</td><td>4</td><td>9</td><td>6</td><td>8</td><td>7</td></tr><tr><td>M-II</td><td>6</td><td>8</td><td>7</td><td>4</td><td>3</td><td>9</td><td>3</td></tr></table>	Jobs	A	B	C	D	E	F	G	M-I	2	5	4	9	6	8	7	M-II	6	8	7	4	3	9	3	(10)	CO3						
Jobs	A	B	C	D	E	F	G																										
M-I	2	5	4	9	6	8	7																										
M-II	6	8	7	4	3	9	3																										
Q.3.D.	Determine the saddle point for following gaming theory problem: <table><tr><td></td><th colspan="4">Player B</th></tr><tr><td></td><th>B1</th><th>B2</th><th>B3</th><th>B4</th></tr><tr><th>Player A</th><td></td><td></td><td></td><td></td></tr><tr><td>A1</td><td>-7.5</td><td>4.5</td><td>1.5</td><td>15</td></tr><tr><td>A2</td><td>7.5</td><td>7.5</td><td>6</td><td>9</td></tr><tr><td>A3</td><td>6</td><td>-3</td><td>0</td><td>-7.5</td></tr></table>		Player B					B1	B2	B3	B4	Player A					A1	-7.5	4.5	1.5	15	A2	7.5	7.5	6	9	A3	6	-3	0	-7.5	(05)	CO3
	Player B																																
	B1	B2	B3	B4																													
Player A																																	
A1	-7.5	4.5	1.5	15																													
A2	7.5	7.5	6	9																													
A3	6	-3	0	-7.5																													

Q.4.A.

A small project consists of following 6 jobs . Draw the network diagram and determine the earliest starting time , earliest finishing time , latest starting time and latest finishing time for each activity

Activities	1-2	1-3	3-5	2-4	4-5	5-6	6-7
Duration	10	4	6	5	12	9	12

OR

Q.4.B.

Following are the abbreviated activities and their predecessor activities with their three time estimates of completion time for a project:

Activities	Preceding Activities	Optimistic	Most likely	Pessimistic
A	-	2	3	4
B	-	8	8	8
C	A	7	9	11
D	B	6	6	6
E	C	9	10	11
F	C	10	14	18
G	C,D	11	11	11
H	F,G	6	10	14
I	E	4	5	6
J	I	3	4	5
K	H	1	1	1

Draw the PERT network diagram. What is the probability that project will be completed in 40 weeks?

(15)

CO4



(15)

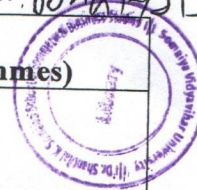
CO4

Mar. 25: A.T.K.T.

Sem. I.

MDF

Research Stat. Analysis.


SOMAIYA
VIDYAVIHAR UNIVERSITY


Examination: End Semester Examination November/December 2024 (PG Programmes)			
Programme code: 24/25		Class:	Semester: I
Programme: Accounting & Finance/Banking & Finance		FYMAF/FYM	
		BF	
Name of the Constituent College: S.K. Somaiya College		Name of the Department: Accounting and Finance	
Course Code:		Name of the Course: Research Statistical Analysis	
231P25K102/231P24N102			
Duration : 1 Hrs.		Maximum Marks : 30	
Instructions: 1) Draw neat diagrams 2) Assume suitable data if necessary			

Question No.	Answer any 3 out of 4. (10 Marks Each)	Max. Marks	Co Attainment																		
Q.1	<p>[A] Calculate Mean Deviation from Mean and its Coefficient for the following data</p> <table><tr><td>Class-interval</td><td>0-10</td><td>10-20</td><td>20-30</td><td>30-40</td><td>40-50</td></tr><tr><td>Frequency</td><td>15</td><td>20</td><td>40</td><td>20</td><td>5</td></tr></table>	Class-interval	0-10	10-20	20-30	30-40	40-50	Frequency	15	20	40	20	5	(5)	Co 1						
	Class-interval	0-10	10-20	20-30	30-40	40-50															
Frequency	15	20	40	20	5																
	<p>[B] The following data give the Consumption of electricity. Find the average consumption</p> <table><tr><td>No. of Units</td><td>No. of Consumers</td></tr><tr><td>0-200</td><td>8</td></tr><tr><td>200-400</td><td>18</td></tr><tr><td>400-600</td><td>27</td></tr><tr><td>600-800</td><td>35</td></tr><tr><td>800-1000</td><td>30</td></tr><tr><td>1000-1200</td><td>25</td></tr><tr><td>1200-1400</td><td>18</td></tr><tr><td>1400-1600</td><td>11</td></tr></table>	No. of Units	No. of Consumers	0-200	8	200-400	18	400-600	27	600-800	35	800-1000	30	1000-1200	25	1200-1400	18	1400-1600	11	(5)	Co 1
No. of Units	No. of Consumers																				
0-200	8																				
200-400	18																				
400-600	27																				
600-800	35																				
800-1000	30																				
1000-1200	25																				
1200-1400	18																				
1400-1600	11																				
Q.2	<p>[A] If X is a Random variable having probability mass function $P(X=x)=kx$; $x=0,1,2,3,4$ Find value of $k, E(X), V(X)$</p>	(5)	Co 2																		
	<p>[B] A Box Contain 5 blue and 4 red balls are selected at random from the box. Find the probability that i) exactly 3 red balls selected ii) at least three red balls are selected</p>	(5)	Co 2																		
Q.3	<p>[A] From the following data, find the regression equations and further estimate Y when X=16 and X when Y=18</p> <table><tr><td>X</td><td>Y</td></tr><tr><td>3</td><td>12</td></tr><tr><td>4</td><td>11</td></tr></table>	X	Y	3	12	4	11	(5)	Co 3												
X	Y																				
3	12																				
4	11																				

	<table><tr><td>6</td><td>15</td></tr><tr><td>10</td><td>16</td></tr><tr><td>12</td><td>19</td></tr></table>	6	15	10	16	12	19																			
6	15																									
10	16																									
12	19																									
	[B] Given the two regression equations Find i) Mean of X and Y ii) Coefficient of Correlation where the equation $2X+3Y=5$ and $5X+8Y=13$	(5)	Co 3																							
Q.4	<p>[A] [A] Strength test carried out on samples of two Yarn spun to the same count gave the following results</p> <table><tr><td></td><td>Sample size</td><td>Sample mean</td><td>Sample variance</td></tr><tr><td>Yarn A</td><td>4</td><td>52</td><td>42</td></tr><tr><td>Yarn b</td><td>9</td><td>42</td><td>56</td></tr></table> <p>The strength are expressed in pounds. Is the difference in mean strength significant of real difference in mean strength of sources from which the sample drawn ? at 5% l.o.s</p> <p>[B] The results obtained in a sample survey of 200 TV viewers on the opinion about TV Programmers are given below</p> <table><tr><td>Gender</td><td>entertaining</td><td>Education</td><td>West of time</td></tr><tr><td>Male</td><td>52</td><td>28</td><td>30</td></tr><tr><td>Female</td><td>28</td><td>12</td><td>50</td></tr></table> <p>Is this evidence convincing that there is an that there is an association between gender and opinion ? at 5% l.o.s</p>		Sample size	Sample mean	Sample variance	Yarn A	4	52	42	Yarn b	9	42	56	Gender	entertaining	Education	West of time	Male	52	28	30	Female	28	12	50	(5) <
	Sample size	Sample mean	Sample variance																							
Yarn A	4	52	42																							
Yarn b	9	42	56																							
Gender	entertaining	Education	West of time																							
Male	52	28	30																							
Female	28	12	50																							

Appendix



Table 2: Critical Values of Student's *t*-Distribution

d.f.	Level of significance for two-tailed test					d.f.
	0.20	0.10	0.05	0.02	0.01	
	Level of significance for one-tailed test					
	0.10	0.05	0.025	0.01	0.005	
1	3.078	6.314	12.706	31.821	63.657	1
2	1.886	2.920	4.303	6.965	9.925	2
3	1.638	2.353	3.182	4.541	5.841	3
4	1.533	2.132	2.776	3.747	4.604	4
5	1.476	2.015	2.571	3.365	4.032	5
6	1.440	1.943	2.447	3.143	3.707	6
7	1.415	1.895	2.365	2.998	3.499	7
8	1.397	1.860	2.306	2.896	3.355	8
9	1.383	1.833	2.262	2.821	3.250	9
10	1.372	1.812	2.228	2.764	3.169	10
11	1.363	1.796	2.201	2.718	3.106	11
12	1.356	1.782	2.179	2.681	3.055	12
13	1.350	1.771	2.160	2.650	3.012	13
14	1.345	1.761	2.145	2.624	2.977	14
15	1.341	1.753	2.131	2.602	2.947	15
16	1.337	1.746	2.120	2.583	2.921	16
17	1.333	1.740	2.110	2.567	2.898	17
18	1.330	1.734	2.101	2.552	2.878	18
19	1.328	1.729	2.093	2.539	2.861	19
20	1.325	1.725	2.086	2.528	2.845	20
21	1.323	1.721	2.080	2.518	2.831	21
22	1.321	1.717	2.074	2.508	2.819	22
23	1.319	1.714	2.069	2.500	2.807	23
24	1.318	1.711	2.064	2.492	2.797	24
25	1.316	1.708	2.060	2.485	2.787	25
26	1.315	1.706	2.056	2.479	2.779	26
27	1.314	1.703	2.052	2.473	2.771	27
28	1.313	1.701	2.048	2.467	2.763	28
29	1.311	1.699	2.045	2.462	2.756	29
Infinity	1.282	1.645	1.960	2.326	2.576	Infinity

APPENDIX