



PG – 703

**I Semester M.B.A. (Day & Eve.) Examination, June/July 2024****(CBCS) (2021 – 22)****MANAGEMENT****Paper – 1.1 : Economics for Managers**

Time : 3 Hours

Max. Marks : 70

**SECTION – A**

Answer any five of the following. Each question carries five marks. (5×5=25)

1. What are the central problems of an Economic system ? Discuss.
2. Discuss the difference between economies of scale and diseconomies of scale.
3. What is iso-quant ? What are the properties of iso-quant ?
4. Suppose a firm has its Total Revenue (TR) and Total Cost (TC) functions estimated as follows :  
 $TR = 300Q - 3Q^2$  and  $TC = 500 + 50Q + 2Q^2$ .  
 Find profit function of the firm and quantity that maximizes the firm's profit.
5. What is peak load pricing ? Discuss with an example.
6. Why is the U-Shape of the long average curve less pronounced than the short run average cost ?
7. Write a note on GDP and GNP.

**SECTION – B**

Answer any three questions. Each question carries 10 marks. (3×10=30)

8. Explain price determination under perfect competition in the short run and long run.
9. With the help of following data, project the trend of sales for next 5 years.

Year	2018	2019	2020	2021	2022	2023	2024
Export Sales (in Rs. lakhs)	120	140	150	170	190	200	227

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10. What is cartel ? Explain price determination under cartel system. Assuming that there are only two firms, show how market demand is divided between the two firms.
11. Explain the nature and scope of the Indian business environment, highlighting its internal and external dimensions. Discuss how understanding these dimensions is essential for businesses operating in India.

### SECTION – C

12. **Compulsory question. It carries fifteen marks. (1×15=15)**

Pricing strategies play a crucial role in economic decision-making for businesses, influencing market dynamics, consumer behavior and firm profitability. This case study explores various pricing strategies employed by companies across different industries, analyzing their economic rationale, implementation techniques and outcomes. Company B, a leading technology company, launches a highly anticipated new gaming console with cutting-edge features and advanced capabilities.

To capitalize on the enthusiasm of early adopters and technology enthusiasts, Company B adopts a price skimming strategy, setting the initial price of the console at a premium level. This premium pricing strategy allows Company B to maximize revenue from consumers who are willing to pay a premium to be among the first to own the latest technology.

Over time, as demand from early adopters diminishes and production costs decline, Company B gradually lowers the price of the console to attract a broader segment of consumers, including price-sensitive buyers.

#### Questions :

- a) Discuss the economic rationale behind price skimming for Company B, considering product differentiation and demand elasticity.
- b) How does price skimming affect consumer surplus and market segmentation in the technology industry ?
- c) Evaluate the effectiveness of price skimming in maximizing revenue and capturing consumer value for Company B.

4000	3500	3000	2500	2000	1500	1000	500
100	200	300	400	500	600	700	800





**PG – 704**

**I Semester M.B.A. (Day & Eve.) Examination, June/July 2024  
(CBCS) (2021 – 22)**

**MANAGEMENT**

**Paper 1.2 : Organizational Behaviour**

**Time : 3 Hours**

**Max. Marks : 70**

**SECTION – A**

**Answer any five of the following :**

**(5×5=25)**

1. Discuss the evolution of management.
2. Explain the challenges in organisational behaviour.
3. Discuss Maslow's need hierarchy theory.
4. Discuss the process of conflict and resolution.
5. Explain the importance of creating and sustaining a positive culture in organisation.
6. What are the methods of organisational development ?
7. Discuss the impact of stress on performance.

**SECTION – B**

**Answer any three of the following :**

**(3×10=30)**

8. Discuss the relationship between personality and work.
9. What are the techniques of group decision making ?
10. Explain the process of transactional analysis.
11. What are the different ways to overcome the resistance to change ?

**P.T.O.**



## SECTION – C

## 12. Compulsory (Case study) :

(1×15=15)

Tech Innovations Inc., a rapidly growing technology startup, is facing challenges in adapting to market changes and scaling its operations effectively. The company's hierarchical structure and traditional decision-making processes have become barriers to innovation and agility. Recognizing the need for organizational development, the CEO, Alex, has initiated a transformational journey to foster a culture of agility and responsiveness. However, resistance to change and entrenched mindsets pose significant obstacles to the company's development efforts.

**Questions :**

- a) How would you engage employees at all levels of the organization to overcome resistance to change and foster a culture of continuous learning and adaptation ?
- b) Explore the role of leadership in facilitating organizational development and driving cultural change.
- c) Discuss how organizational structure, culture and leadership style may either facilitate or hinder organizational development.



**PG – 705**

**I Semester M.B.A. (Day and Eve.) Examination, June/July 2024  
(CBCS) (2021 – 22)  
MANAGEMENT**

**Paper – 1.3 : Accounting for Managers**

**Time : 3 Hours**

**Max. Marks : 70**

**SECTION – A**

**Answer any five questions. Each question carries 5 marks. (5×5=25)**

1. What is GAAP ? Explain the need for GAAP.
2. What is Window Dressing ? Explain the motives of Window Dressing Financial Statements.
3. Discuss in brief the various methods of classification of costs.
4. The budgeted expenses of 10,000 units of production are :

	<b>Rs.</b>
Direct materials	120
Direct labour	60
Variable overheads	40
Fixed overheads (Rs. 3,20,000)	32
Selling expenses (20% fixed)	30
Administration expenses (40% fixed)	20
<b>Total Cost</b>	<b>302</b>

Prepare flexible budget for 6000 units and 8000 units.

5. The following information is given below :

	<b>Sales Rs.</b>	<b>Profit Rs.</b>
Period 1	1,00,000	20,000
Period 2	1,50,000	40,000

You are required to calculate :

- i) P/V ratio;
- ii) Fixed cost;
- iii) Break-even sales volume;
- iv) Sales to earn a profit of Rs. 6,000.

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6. The following information has been obtained from the records of ABC Limited for the year 2023.

	Rs.
Cost of raw materials in stock as on 1 <sup>st</sup> March 2023	30,000
Raw materials purchased during the month	4,50,000
Wages paid	2,00,000
Wages outstanding	30,000
Factory overheads	92,000
Raw material in stock on 31 <sup>st</sup> March 2023	25,000
Work-in-progress on 1 <sup>st</sup> March 2023	12,000
Work-in-progress on 31 <sup>st</sup> March 2023	15,000
Opening stock of finished goods	60,000
Closing stock of finished goods	55,000
Selling and distribution overheads	20,000
Sales	9,00,000
Administrative overheads	30,000

You are required to prepare a statement showing the cost of goods manufactured and cost of goods sold.

7. The net profit of the company before tax is Rs. 20,00,000 as on 31<sup>st</sup> March 2023 after considering the following :

	Rs.
Depreciation on fixed assets	1,00,000
Goodwill return	30,000
Loss on sale of machine	24,000
Tax paid	83,000

The current assets and current liabilities of the company in the beginning and at the end of the year were as follows :

	31-03-2022	31-03-2023
	Rs.	Rs.
Accounts receivable	1,00,000	62,000
Accounts payable	40,000	50,000
Stock in hand	60,000	56,000
Creditors	60,000	30,000
Outstanding expenses	30,000	20,000

Calculate cash flow from operating activities by Indirect method.



## SECTION – B

Answer **any three** questions. Each question carries **10** marks. (3×10=30)

8. Discuss the concepts and conventions underlined in the preparation of financial statements.
9. Write a short notes on :
  - a) International Financial Reporting Standards.
  - b) Responsibility Accounting.
10. The following is the Balance Sheet of XYZ Ltd. as on 31<sup>st</sup> March 2023.

Liabilities	Rs.	Assets	Rs.
Equity share capital	4,00,000	Goodwill	2,00,000
Reserve fund	2,80,000	Land and building	4,00,000
8% debentures	5,58,000	Plant and machinery	3,50,000
Sundry creditors	70,000	Stock	2,50,000
Bills payable	35,000	Sundry debtors	80,000
Bank overdraft	60,000	Bills receivable	1,10,000
Outstanding expenses	35,000	Cash balance	30,000
		Prepaid expenses	18,000
<b>Total</b>	<b>14,38,000</b>	<b>Total</b>	<b>14,38,000</b>

Sales 6,00,000 and cost of goods sold 3,80,000.

From the above information calculate :

- a) Current ratio
  - b) Liquid ratio
  - c) Inventory turnover ratio
  - d) Debtors turnover ratio
  - e) Working capital turnover ratio
  - f) Gross profit ratio.
11. Following Balance Sheets of XYZ Co. Ltd. for the years 2022 and 2023 are available. Prepare a cash flow statement by Indirect method.

Liabilities	(Rs. in Thousands)		Assets	(Rs. in Thousands)	
	2022	2023		2022	2023
Share capital	150	225	Land	150	150
Securities premium	—	7.5	Plant	156	150
General reserve	75	90	Furniture	10.5	13.5
P & L A/c	15	25.5	Investment	90	120
6% debentures	105	75	Debtors	45	105
Provision for depn. on plant	75	84	Stock	90	97.5
Depn. on furniture	7.5	9	Cash	45	67.5
Tax payable	30	45			
Sundry creditors	129	142.5			
	<b>586.5</b>	<b>703.5</b>		<b>586.5</b>	<b>703.5</b>



**Additional information :**

- Plant purchase for Rs. 6,000 (depreciated value Rs. 3,000 was sold for cash Rs. 1,200 on 30<sup>th</sup> September.
- On 29<sup>th</sup> June furniture was purchased for Rs. 3,000.
- Depreciation on plant 8% , Depreciation on furniture 12.5% on average cost.
- Dividend 22.5% on original share capital.

**SECTION – C****12. Compulsory question :**

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The following is the Trial Balance of Venkateshwara Ltd. as at 31-03-2023.

	Debit Rs.	Credit Rs.
Stock on 1 <sup>st</sup> April 2022	7,50,000	—
Sales	—	35,00,000
Purchases	24,50,000	—
Wages	5,00,000	—
Discounts	70,000	50,000
Salaries	75,000	—
Rent	49,500	—
General expenses including insurance	1,75,000	—
Profit and Loss Account on 1 <sup>st</sup> April 2022	—	1,50,300
Dividends paid	90,000	—
Bad debts	48,300	—
General reserve	—	1,55,000
Cash in hand and at bank	1,62,000	—
Authorized capital and issued capital (fully subscribed) (1,00,000 shares of Rs. 10 each)	—	10,00,000
Sundry debtors and creditors	3,75,000	1,79,500
Plant and machinery	2,90,000	—
<b>Total</b>	<b>50,34,800</b>	<b>50,34,800</b>

You are required to prepare a statement of Profit and Loss and a Balance Sheet for the year ended 31<sup>st</sup> March, 2023 as per the Revised Schedule VI of the Companies' Act.

- Closing stock Rs. 8,20,000.
- Depreciate machinery at 15% p.a.
- One month's rent at Rs. 54,000 p.a. was due on 31<sup>st</sup> March 2023.
- Six months insurance was unexpired Rs. 3,750.
- The director proposed a dividend of 8%.





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**I Semester M.B.A. (Day & Eve.) Examination, June/July 2024  
(CBCS) (2021 – 22)  
MANAGEMENT**

**Paper – 1.4 : Statistics for Management**

Time : 3 Hours

Max. Marks : 70

**SECTION – A**

Answer **any five** questions. **Each** question carries **five** marks. (5×5=25)

1. What is meant by a symmetrical distribution and a non-symmetrical distribution ? Explain the types using suitable illustrations.
2. A can shoot and hit a target in 2 out of 5 attempts. B can shoot and hit the target in 3 out of 7 attempts. What is the possibility of the target being hit at all if both A and B shoot at the same time ?
3. Find the correlation between the two data sets given below. Find the probable error and interpret the correlation :

<b>X</b>	18	12	30	36	48	60
<b>Y</b>	24	36	48	42	54	66

4. From the following details, find the straight-line trend using the method of least squares. A graph is not necessary.

<b>Year</b>	2015	2016	2017	2018	2019	2020	2021	2022	2023
<b>Sales in Rs. 00'000</b>	18	54	63	36	45	81	27	72	81

5. Find the two regression equations from the following data. Find X when Y = 54 and Y when X = 36.

<b>X</b>	40	48	56	64	72	88	96	104
<b>Y</b>	16	24	40	80	48	72	80	88

6. Use the Chi Square Test with a significance level of 5 per cent to find out whether the medicine administered to sheep was effective or not, for the given data.

<b>Details</b>	<b>Took the Medicine</b>	<b>Did not take the medicine</b>
Took ill	567	812
Did not take ill	583	948

P.T.O.



7. Find the coefficient of variation for the two data sets given below and interpret the same :

<b>Scores of P</b>	16	32	48	80	88	72	32	96
<b>Scores of T</b>	32	40	56	64	80	96	16	24

### SECTION – B

Answer **any three** questions. **Each** question carries **ten** marks.

(3×10=30)

8. Explain the concepts of significance and confidence levels, degrees of freedom, type I and II errors, hypothesis and types, one tailed and two tailed tests with illustrations.
9. Using the following data, find the index numbers of price by applying the :  
 a) Laspeyers method, b) Paasche method, c) Bowley's method,  
 d) Fischer's ideal index method and e) Marshall-Edgeworth method.

<b>P<sub>0</sub></b>	16	19	23	28	26	24
<b>P<sub>1</sub></b>	17	21	24	29	28	27
<b>Q<sub>0</sub></b>	20	23	25	32	27	22
<b>Q<sub>1</sub></b>	22	24	26	33	29	25

10. The following results were obtained when five different drugs were administered to poultry in four different farms, in terms of health benefits. Using the data given below and the ANOVA technique with a significance level of 5 per cent, determine whether there is any significant difference in the health benefits produced by the five different drugs.

<b>Details</b>	<b>Drug One</b>	<b>Drug Two</b>	<b>Drug Three</b>	<b>Drug Four</b>	<b>Drug Five</b>
Farm One	12	44	48	16	60
Farm Two	40	24	56	12	52
Farm Three	36	48	60	24	44
Farm Four	52	52	56	28	48





11. Mr. Dimitri has two options of investments but can only do one at a time. In option one, he can set up a men's saloon for Rs. Thirty lakhs. The probability for success is 75 per cent with a cash inflow of Rs. Thirty-six lakhs. If he fails, he can still recover Rs. Eighteen lakhs. When he succeeds, he can further decide to invest Rs. Twenty lakhs in a Unisex saloon. The probability of success is 70 per cent with a cash inflow of Rs. Twenty-two lakhs. If he fails, he loses Rs. Four lakhs.

In option two, he can invest Rs. Thirty lakhs in a hardware store. The chances of success are 80 per cent with a cash inflow of Rs. Thirty-two lakhs. If he fails, he can still recover Rs. Twenty-three lakhs. When he succeeds, he can decide to invest in a paint shop with an investment of Rs. Twenty lakhs. The probability of success would be 55 per cent with a cash inflow of Rs. Nineteen lakhs. If he fails, he can still recover Rs. Five lakhs.

Draw a decision tree and the Pay-off table. Advise Mr. Dimitri on the better option to invest.

### SECTION – C

This is a **compulsory** question. It carries **fifteen** marks.

(1×15=15)

12. The Animal Husbandry Department of Karnataka State has reared 3000 chickens in an experiment to rear better quality chicken. The Department wishes to know the results of their experiment as regards the growth of the chickens. Use the data given below and if the development of the chickens adheres to Normal Distribution, reveal the results to the Department.

The average height of the chickens are 2 feet, with a standard deviation of 4 inches. The average weight of the chickens are 5 Kgs, with a standard deviation of 2 Kgs. Find the following :

- a) How many chickens are taller than 2 feet 6 inches ?
  - b) How many chickens are between 1 foot ten inches and 2 feet 7 inches tall ?
  - c) How many chickens are shorter than 1 foot 9 inches ?
  - d) How many chickens have a weight greater than 8 Kgs ?
  - e) How many chickens have a weight less than 4.5 Kgs ?
  - f) How many chickens have a weight between 4.75 Kgs and 7.5 Kgs ?
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**I Semester M.B.A. (Day & Eve.) Examination, June/July 2024  
(CBCS) (2021 – 22)  
MANAGEMENT**

**Paper – 1.5 : Marketing for Customer Value**

**Time : 3 Hours**

**Max. Marks : 70**

**SECTION – A**

Answer **any five** of the following questions. **Each** question carries **5** marks. **(5×5=25)**

1. Define and explain the concept of marketing management.
2. Explain types of pricing strategies.
3. Discuss the importance of branding in product marketing.
4. Define distribution channels and explain their significance in marketing.
5. Describe the stages of the product life cycle.
6. Define the consumer adoption process and its stages. Explain how understanding this process can benefit businesses in launching new products.
7. Discuss the types of market segmentation.

**SECTION – B**

Answer **any three** questions. **Each** question carries **10** marks.

**(3×10=30)**

8. Develop a comprehensive marketing mix strategy for launching innovative product in the market. Consider how each element of the marketing mix (product, price, place, promotion) contributes to achieving your business objectives.
9. Discuss the process of new product development.
10. Explain the marketing research process, highlighting the importance of each step.
11. Write short notes on :
  - a) Wholesaling
  - b) Publicity.

**P.T.O.**



## SECTION – C

12. **Compulsory. Case study.**

(1×15=15)

Coca-Cola, one of the world's largest soft drink manufacturers became famous for its flagship product 'Coca-Cola'. Coca-Cola adopted different marketing strategies and built a strong brand among the consumers. But the company was faced with stagnating sales in the 1980s due to shift in consumer preferences from carbonated drinks to healthy drinks like juices and green tea. With an aim to attract health conscious consumers Coca-Cola introduced fortified carbonated drinks terming them as 'sparking beverages'. To gain competitive advantage in this emerging segment, Coca-Cola initiated a new marketing campaign for its new product 'Coke Zero' and simultaneously launched 'Diet Coke Plus'.

**Questions :**

- If you wish to introduce your own diet cold drink in the Indian market, what challenges will you face ? How will you overcome these challenges ?
- What alternative strategies will you adopt to boost up your diet cold drink sales ?



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**I Semester M.B.A. (Day and Eve.) Examination, June/July 2024  
(CBCS) (2021-22)  
MANAGEMENT**

**Paper – 1.6 : Legal Aspects and Intellectual Property Rights**

Time : 3 Hours

Max. Marks : 70

**SECTION – A**

Answer **any five** of the following questions. **Each** question carries **5** marks. **(5×5=25)**

1. Enumerate the significance of the New Labour Codes.
2. How are offences and penalties treated as per the Code on Wages, 2019 ?
3. State the composition of National Board under The Occupational Safety, Health and Working Conditions Code, 2020.
4. When is Gratuity payable as per the Code on Social Security, 2020 ?
5. How is the right of authors protected in the Berne Convention ?
6. What is meant by a Patent Cooperation Treaty ?
7. Summarize the two main areas of the Industrial Property.

**SECTION – B**

Answer **any three** out of the following questions. **Each** question carries **10** marks. **(10×3=30)**

8. Explain the Electronic Governance and Legal Recognition of Electronic Records and Electronic Signatures.
9. What is the procedure followed for registration and recognition of a Trade Union ?
10. Discuss the applications and procedures of WIPO.
11. Examine the situations/conditions for infringement of copyrights.

P.T.O.





## SECTION – C

## 12. Case study (Compulsory question).

(1×15=15)

A major pharmaceutical company developed a new drug for the treatment of a chronic disease. This drug was protected by a series of patents granted in various countries, including India. After the drug's launch, a generic drug manufacturer started producing a similar drug, arguing that its formula did not infringe upon the pharmaceutical company's patents. The pharmaceutical company filed a lawsuit against the generic manufacturer, claiming patent infringement and seeking an injunction to stop the production and sale of the generic drug. The generic manufacturer counter-argued that the patents held by the pharmaceutical company were either invalid or too broad and should not be enforceable against its product.

The legal battle centered around the interpretation of the patents and whether the generic manufacturer's drug fell within the scope of the pharmaceutical company's patent claims. The court considered evidence from both parties, including technical expert testimonies on the chemical composition and properties of the drugs. The case raised questions about the balance between protecting intellectual property and ensuring access to affordable medications for patients. Ultimately, the court's decision had significant implications for both the pharmaceutical industry and consumers, potentially setting a precedent for future patent disputes in the industry.

**Questions :**

- a) How does this case reflect the challenges of balancing patent protection for innovation with ensuring access to affordable medications ?
- b) What legal strategies might the generic manufacturer employ in similar IPR disputes to defend against claims of patent infringement ?



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**I Semester M.B.A. (Day) Examination, June/July 2024  
(CBCS) (2021-22)  
MANAGEMENT**

**Paper – 1.7 : Managerial Skills – 1**

**Time : 3 Hours**

**Max. Marks : 70**

**SECTION – A**

**Answer any five questions. Each question carries 5 marks : (5×5=25)**

1. Explain empathy and how can managers display this skill ?
2. Explain Negotiation skills and state the need for negotiation skills.
3. What are the essential steps to be followed in solving a problem ?
4. What is meant by communication matrix ?
5. What is meant by a team charter ? What are its contents ?
6. Explain the significance of emotional intelligence for business managers.
7. What are the different skills of motivation ?

**SECTION – B**

**Answer any three questions. Each question carries 10 marks : (3×10=30)**

8. Define delegation. Elaborate the process of delegation.
9. What are teams ? Explain the stages of team development.
10. Write short notes on :
  - a) Differences between Extrinsic and Intrinsic motivation.
  - b) Stages of report writing.
11. What are the different skills a manager needs at different levels ? Why are managerial skills important for a business manager ?

**P.T.O.**





## SECTION – C

**Compulsory Question :****(1×15=15)****12. Case Study :**

“Madam, I really need to talk to you about something important.”

“Is it so, Usha ? Well, take a seat and let me hear about it” Alka, the Manager, says in a friendly tone, as she continues to stare at the computer screen. As Usha sits down, Alka continues, “Usha you think you have a problem ? How would you like to hear the one I’m faced with-now ? First, I’m right in the middle of a union negotiation for a new two-year contract. I have several problems with the supervisory staff of the Kandivilli plant and somebody has ruined our inventory procedure. So, we are running short of material at several outlets.” Finally, Alka looks up at Usha and asks somewhat hurriedly, “Well, what’s your problem”.

Discouraged by her Supervisor’s preoccupation with her own problems and her abrupt manner. Usha decides that this is not the right time to get any assistance from her. To end the conversation without looking foolish, she decides to ask a few questions about a routine procedure.

Before Usha can speak, however, Alka suddenly signals the end of the discussion by saying, “Usha, I have another appointment now, if, you like we can continue this discussion later. I want to be of help, and my door is always open to you.” She returns her attention to the computer screen before Usha moves from her chair.

**Questions :**

- List the listening skills that were absent with the Manager.
- What are differences between hearing and listening ?
- How should Alka have handled the situation and what effect do you think the manager’s attitude had on Usha ?
- How would you solve the issue ?



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**I Semester M.B.A. Degree Examination, June/July 2024  
(CBCS)**

**(2014 – 15 and Onwards) (Repeaters)  
MANAGEMENT**

**Paper – 1.4 : Statistics for Management**

Time : 3 Hours

Max. Marks : 70

**Instruction : Calculators and tables are allowed.**

**SECTION – A**

Answer **any five** questions from the following. **Each** question carries **5** marks.

**(5×5=25)**

1. Explain the concepts of Kurtosis and Skewness with suitable illustrations.
2. A Multinational Company wants to acquire Indian company. The performance of two companies are rated below. Help the Multinational Company to select a consistent performing company, using the coefficient of variation.

<b>Company A</b>	32	28	47	63	71	39	10	60	96	14
<b>Company B</b>	19	31	48	53	67	90	10	62	40	80

3. The following table shows the number of salesman working in a certain company.

<b>Year</b>	2013	2014	2015	2016	2017
<b>No. of Salesmen</b>	28	38	46	40	56

Use the method of least squares to fit a straight line trend and estimate the number of salesmen required to be working in 2018.

4. Tables and graphs can present data in a more effective way. Elaborate your answer with suitable illustrations.
5. In a certain city several people fell ill with a stomach upset. Some of them claimed that they had eaten pizza from a certain restaurant and fell sick. Based on the data given below and using Chi square with a five per cent significance level find out if eating the pizza affected the people or not.

<b>Details</b>	<b>Fell sick</b>	<b>Did not fall sick</b>
<b>Ate Pizza</b>	410	560
<b>Did not eat pizza</b>	690	540

P.T.O.





6. What are non parametric tests ? Explain using examples.
7. In a certain class of MBA students the average height is 5 ft 10 inches. If the standard deviation is 4 inches, find
- How many students are between 5 ft. 8 inches and 6 ft. one inch ?
  - How many students are taller than 6 ft. 2 inches ?
  - How many students are shorter than 5 ft. 3 inches ?

### SECTION – B

Answer **any three** questions from the following. **Each** question carries **10** marks.

(3×10=30)

8. Calculate Fisher's ideal index number from the data given below and show that it satisfies both Time Reversal Test and Factor Reversal Test.

Commodities	Base year		Current year	
	Price	Quantity	Price	Quantity
Food	6	50	10	56
Rent	2	100	2	120
Clothing	4	60	6	60
Fuel and light	10	30	12	24
Oil	8	40	12	36

9. Explain the process of setting up and testing a hypothesis. You are expected to specifically explain each related concept involved.
10. A certain company has four salesman A, B, C, D each of whom was sent for a month to three types of area K, O and S. The sales in hundreds of rupees per month are given below :

Districts	Salesmen			
	A	B	C	D
K	30	70	30	30
O	80	50	40	70
S	100	60	80	80

Use ANOVA with a 5 per cent significance level and determine whether there is a significant difference in the sales performance of the salesmen.



11. A businessman has two investment options of which he can take up only one at a time.

Investment option A :

He can start a car sales showroom for Rs. 10 lakhs. The chances are that he will succeed or fail. If he succeeds, he gets a cash inflow of Rs. 15 lakhs. If he fails he can salvage Rs. 5 lakhs, probability of success being 0.70. If he succeeds, he can start another car sales showroom for Rs. 8 lakhs wherein there is definite success with Rs. 9 lakhs as cash inflow.

Investment option B :

He can open a restaurant for Rs. 9 lakhs. The chances are that :

- a) He will have success whereby his cash inflow will be Rs. 10 lakhs, probability being 0.55 or
- b) He will fail whereby the salvage value will be Rs. 2 lakhs.

Draw the decision tree and show the pay off table.

SECTION – C

12. **Compulsory** case study.

(1×15=15)

From the data given below you are expected to

- a) Calculate the coefficient of correlation.
- b) Calculate the probable error and interpret the significance of correlation calculated.
- c) Find the two regression equations.
- d) Find Y when X = 23.
- e) Find X when Y = 29.

X	49	51	65	75	80
Y	68	72	79	81	90