PH 301.3 **Reg. No.** | | | | | | | |

St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

BUSINESS ETHICS

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Distinguish between Consequentialism and non-consequentialism theories. **(5)**

   b) Evaluate the role of religion in shaping ethical behavior beyond individual beliefs. **(10)**

2. a) Describe the role of corporate culture in fostering ethical behavior within organizations. **(5)**

   b) Explain the human personhood as the foundation of executive ethics. **(10)**

3. a) Define the Due Care Theory of product safety and explain its fundamental principles. **(5)**

   b) Discuss the role of HRM in creating an ethical organization. **(10)**

4. a) Explain how creative accounting practices can artificially inflate a company's financial performance. **(5)**

   b) Discuss the challenges faced by financial institutions in combating money laundering activities. How can banks strengthen their anti-money laundering measures to comply with regulatory requirements and uphold ethical standards? **(10)**

5. a) Discuss one ethical dilemma faced by industries regarding environmental protection. **(5)**

   b) Assess the role of international agreements and regulations in governing intellectual property rights and fostering global technological innovation. **(10)**

SECTION – B

6. **Case study:** **(10)**

   Priya, a 75-year-old woman, has been battling a terminal illness for several years. Despite undergoing various treatments, her condition has deteriorated to the point where she is in constant pain, has lost her ability to perform daily activities, and is entirely dependent on others for care. Priya has expressed a desire to die peacefully, maintaining some control over the timing and manner of her death.

   Priya's family is divided on the issue of euthanasia. Some argue that she should have the right to end her suffering on her terms, as she has

Contd...2

endured a great deal of pain and discomfort. Others believe that assisting in her death goes against their moral or religious beliefs and that every effort should be made to prolong her life, even if it means increased suffering.

The medical team is also conflicted. They understand Priya's pain and her desire for a dignified death, but they are torn between respecting her autonomy and the ethical principle of preserving life.

In this scenario, the ethical dilemma revolves around the conflicting principles of autonomy, which supports Priya's right to make decisions about her own life, and the sanctity of life, which emphasizes the preservation of life and opposes actions that intentionally hasten death. It's a complex situation that requires careful consideration of the values and principles involved.

Questions:

1. How should the ethical dilemma between respecting Priya's autonomy in deciding the timing and manner of her death and upholding the sanctity of life be navigated? 5 Marks

2. What ethical responsibilities do the medical professionals have in this scenario, and how should they navigate the tension between their duty to relieve Priya's suffering and their duty to preserve life? 5 Marks

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Semester III – P.G Examination – M.B.A

MARCH - 2025

LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Time: 3 hrs. Max Marks: 70

SECTION - A

Answer any FOUR of the following questions (4x15=60)

1. a) "SCM is a process of integration to bridge the gap between supply and demand" –Explain. (5)

   b) Mapping the supply chain gives insight into the scope and opportunities that exist for cost reduction and productivity enhancement. Elaborate with a value and cost addition graph. (10)

2. a) Summarize the cost considerations related to warehouse operations. (5)

   b) Using Vogel's approximation method, compute the transportation cost to obtain the basic feasible solution of a transportation problem whose cost and requirement table is given below. Provide a brief interpretation on the findings and discuss the pros and cons of obtaining the feasible solution using Vogel's approximation method. (10)

Origin/ Destination	D1	D2	D3	Supply
O1	5	1	7	10
O2	6	4	6	80
O3	3	2	5	50
Demand	75	20	50	

3. a) Analyze rationally whether inventory should be classified as an asset or a liability. (5)

   b) From the following data, draw an ABC analysis graph after classifying the items in three different categories: Category A, Category B and Category C considering the percentage of total consumption value as 60%, 30%, 10% respectively. The details of the items along with their unit price and annual consumption units are given below: (10)

Item	Eraser	Pen	Notes	Crayon	Color sheet	Sketch pen	Push pencil	Tape	Pencil	Sticky Notes
Cost	5	11	15	8	7	16	20	4	9	12
Demand	48000	2000	300	800	4800	1200	1800	300	5000	500

Contd....2

4. a) Illustrate the import procedure in India. **(5)**

   b) Identify the factors affecting transportation decisions for carriers as well as customers. **(10)**

5. a) "A growing trend observable in the industry today is "hollowing out" of corporations – Discuss. **(5)**

   b) Illustrate how ERP helps in optimization of the supply chain management process **(10)**

SECTION – B

6. **Case study:** **(10)**

   To date, Linen Club has been purchasing an item in lots of 750 units. This equates to a three-month supply. The cost per unit is $8, the order cost is $4 per order, and the carrying cost is 6% of unit price. How much can Linen Club save per year by purchasing the item in the most economical quantities? Comment on your findings.

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

CREATIVITY AND INNOVATION MANAGEMENT

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Evaluate the meaning of the term innovation, in Business Management. **(5)**
   b) Evaluate the relevance of circular economy and sustainable development. **(10)**
2. a) Evaluate the various levels of imagination. **(5)**
   b) Identify the various personality traits that characterise creative people. **(10)**
3. a) Compared to incremental innovation, breakthrough innovation fundamentally changes the dynamics of a given industry or market. Interpret this statement, bringing out the differences between incremental innovation and breakthrough innovation. **(5)**
   b) With disruptive innovation, a smaller company with fewer resources can unseat an established, successful business. Discuss this statement. **(10)**
4. a) Analyse in detail, the various aspects of open innaovation. **(5)**
   b) How does Chandy and Tellis model explain the significance of new technologies. **(10)**
5. a) Jugaad Innovation and catalytic innovation help people to overcome scarcity of resources in developing countries. Evaluate this statement **(5)**
   b) Design thinking helps managers to develop the right set of strategies. Discuss this statement. **(10)**

SECTION – B

6. **Case study:** **(10)**

Innovation at Google

Google is one of the most innovative companies in the world; the company encourages its employees to be more creative with policies such as the '20% rule'. Through this rule, the employees are required to spend 20% of their time on side projects. This policy has been beneficial for the company as it has helped the company develop some of the most popular products/ services, such as Gmail and Google Maps.

Innovation Strategies & Philosophies

Google places great emphasis on the role of innovation and creativity within the company; therefore, the company applies eight policies for better results (Google, 2014). The first strategy is 'Thinking 10x'. Under this strategy, the company believes that innovation occurs when something is improved 10 times rather than by 10% (Schmidt and Rosenberg, 2014). This strategy is mainly focused by the engineering department of the company called Google X. A 10x strategy enables the workforce to rethink an idea and pushes the employees to think beyond existing models and re-imagine their approach

Contd...2

regarding a project. The second strategy is 'Launch, then Keep Listening'. The strategy is based on the feedback of users. The company typically launches a trial version of their services and products, and later collects feedback from users to make rapid changes and improve the quality of their offerings. The company believes that by this approach, they gain real-world feedback and thus they respond to market needs. The Android software could be a notable example here, which has improved continuously since its launch in the year 2008. New versions of the Android software are released annually, and improvements are made based on feedback, via online updates to the system.
Another strategy applied by Google is the 'Share Everything You Can' strategy. The purpose of applying this strategy is that the company can enable high-level collaboration internally. Google regards collaboration as a very important aspect of success; therefore, sharing of information is paramount at the company. An example of this is the company's weekly meeting called TGIF(Thank God, it is Friday) meeting, in which all heads/managers get together either physically in the headquarters or through a live stream to discuss developments of projects, acquisitions, previous activities, and future plans. However, these meetings have recently been conducted monthly, due to incidents related to information leaks; which can be noted as a major downside of this strategy. Like every other company, Google aims to 'hire the right people', which is their fourth strategy. The company usually hires people that are referred by the current employees working within Google.However, the screening process of Google is likely to differ from other companies. When attractive candidates have been identified, they go through a series of interviews . The traits that the company looks for in the employees involve the ability of the candidates to adapt to change and take the risk for big challenges. The company applies the '70/20/10 strategy', Google employees are asked to dedicate 70% of their time for core business tasks, allocate 20% for projects related to their core responsibilities, and dedicate 10% of their time to new and unrelated projects. Through this strategy, the company intends to explore new markets and opportunities. Google also believes that 10% of the activities unrelated to the core business might actually develop meaningful efforts that can be part of the core business; thus, making the scenario beneficial to the company. This strategy also promotes out of the box thinking and encourages employees to think what-if scenarios regarding a product or service.
Another strategy that Google has applied is 'looking for ideas everywhere'. An example of this strategy is reflected by Google Maps. For example, in India, the online data related to maps were not accurate, which made users dissatisfied. Therefore, a representative in India suggested an action plan, enabling users to make edits in Google Maps, making the service more convenient, reliable, and useful. Another strategy of Google is using data and not opinions. The company believes that analysing data is much more meaningful and beneficial than listening to opinions. Google believes that analysing data makes the company more aware of its managerial decisions and enables them to make smarter choices. An example of this strategy is Google Geist. In this regard, a survey was sent to every employee with questions pertaining to management, work-life, and office environment. The data analysts then define the data and pass on the information to the responsible managers who are expected to act appropriately on it. The last innovation strategy of Google is focusing on users and not on the competition.

Contd...3

The company seeks consumer loyalty through this strategy as it intends to improve the lives of users via innovation. An example of this strategy is their email service. Gmail was launched in 2004 despite the existence of prominent players in the market; however, Google believed that the other companies' services were not up to the mark so they introduced attractive solutions such as big storage for emails, shared folders, calendars, etc. These features, among others helped the company progress to such heights that it is now the most used email service in the world. Therefore, it can be said that their customer-centric strategy of focusing on users to improve their lives gained them a competitive advantage and consumer loyalty.

Think big but start small

No matter how ambitious the plan, you have to roll up your sleeves and start somewhere. Google Books, which has brought the content of millions of books online, was an idea that the founder, Larry Page, had for a long time. People thought it was too crazy even to try, but he went ahead and bought a scanner and hooked it up in his office.

Questions

1. Discuss the various initiatives undertaken by Google that makes it highly innovative. **(5 Marks)**

2. Google focuses on users and not on competition. The company seeks consumer loyalty through this strategy as it intends to improve the lives of users via innovation. What is your opinion on this initiative? **(5 Marks)**

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Semester III – P.G Examination – M.B.A

March - 2025

LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Justify the notion of considering logistics as a system concept. **(5)**

   b) Elaborate on the factors that lead to success of an organization due to implementation of supply chain mapping. **(10)**

2. a) "Warehousing has a role beyond storage" - Justify the statement. **(5)**

   b) The evaluation of alternative layouts of a warehouse is done based on some guidelines normally followed in an industry. Discuss in detail about the guidelines. **(10)**

3. a) Elaborate on the guidelines that needs to be followed for designing an effective and efficient material handling system **(5)**

   b) The Radheshyam Industries estimates its carrying cost at 6% and its ordering cost at Rs 12 per order. The estimated annual requirement is 60,000 units at a price of Rs 6 per unit. **(10)**

   (i) Compute the most economical number of units to order.

   (ii) How many orders should be placed in a year?

   (iii) How often should an order be placed?.

4. a) "Water transport is the cheapest mode of transport" – Substantiate with examples. **(5)**

   b) "The efficiency and effectiveness of the distribution channel is the function of a proper logistics program." - Explain. **(10)**

5. a) "The dividing line between 3PL and 4PL is very thin" – Justify. **(5)**

   b) Discuss the various types of logistics strategies being used across the industry. **(10)**

SECTION – B

6. **Case study:** **(10)**

Using Least cost method transportation problem, obtain the initial basic feasible solution of a transportation problem where cost and requirement table is given below.
Provide a brief interpretation on the findings and discuss the pros and cons of obtaining the feasible solution using least cost method.

Origin/ Destination	D1	D2	D3	Supply
O1	4	8	8	76
O2	16	24	16	82
O3	8	16	24	77
Demand	72	102	41	

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions (4x15=60)

1. a) Distinguish between the financial and economic meaning of investment with examples. **(5)**

   b) Explain the SEBI guidelines for the issue of securities. **(10)**

2. a) A company has declared a dividend of Rs.2.50 per share for the current year. The company has been following a policy of enhancing its dividends by 10% every year and is expected to continue this policy in the future also. Required rate of return is 18%. Calculate its price. **(5)**

   b) An investor recently purchased a bond with Rs.1000 face value, 10% coupon rate and 6years to maturity. The bond makes annual interest payments. The investor paid Rs.1032.50 for the bond. (i). Calculate the YTM of the bond. (ii). If the bond can be called in 2 years from now at a price of Rs.1080, what is it's YTC? **(10)**

3. a) What is meant by fundamental analysis? How does it differ from technical analysis? **(5)**

   b) "The level, trend and stability of earnings of a company depend upon a number of factors concerning the operations of the company". Discuss. **(10)**

4. a) For the following data calculate the expected return of a portfolio composed of the following securities:

Security	Expected Returns (%)	Proportion of investment
1	10	20
2	15	20
3	20	60

   What would be the expected return if the proportion of each security in the portfolio were 25%, 25% and 50% respectively? **(5)**

Contd...2

b) The historical rates of return of two securities over the past ten years are given. Calculate the covariance and the correlation of the two securities.

Years	1	2	3	4	5	6	7	8	9	10
Return (%) Security 1	12	8	7	14	16	15	18	20	16	22
Return (%) Security 2	20	22	24	18	15	20	24	25	22	20

(10)

5. a) A portfolio that over the last five years has produced 20.8% annual return. During that time the portfolio produced a 1.30 beta. Further, the risk free return and the market return averaged 6.9% and 17.32% per year respectively. Evaluate the performance of the portfolio? **(5)**

b) An investor has the choice of two securities X and Y. Their rates of return and probabilities are given. Which according to you, should he buy for investment?

X		Y	
Rate of return	Probability	Rate of return	Probability
-30	20	-20	20
0	40	10	40
30	30	40	30
70	10	80	10

(10)

SECTION – B

6. **Case study:** **(10)**

The following data are available to you as portfolio manager: (a). In terms of the SML, which of the securities listed above are under-priced? (b). Assuming that a portfolio is constructed using equal proportions of the five securities listed in the table, calculate the expected return and risk of a portfolio.

Security	Estimated Returns (%)	Beta (βi)	Standard Deviation (%)
A	30	2	50
B	25	1.5	40
C	20	1	30
D	11.5	0.8	25
E	10	0.5	20
Market index	15	1	18
Govt. Security	7	0	0

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St Aloysius College (Autonomous)
Mangaluru

Semester III – P.G Examination – M.B.A.
MARCH - 2025

SHORT TERM DECISION MAKING IN FINANCE

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) From the following information extracted from the books of Nyle Care Ltd., Compute **(5)**
a) Gross operating cycle and b) Cash cycle.
Comment on the result.

	₹
Total credit purchases (Annual)	80,00,000
Credit sales (Annual)	1,60,00,000
Accounts receivable	40,00,000
Accounts payable	16,00,000

Average Inventory procuring and holding period - 70 days.

b) Compute the working capital requirements of Noni Care Ltd. from the following data. **(10)**

Description	**Amount (₹)**
Annual Sales	28,40,000
Cost of production (including depreciation ₹1,20,000)	24,00,000
Raw material purchases	14,02,000
Overheads per month	64,500
Anticipated opening stock of raw materials	2,86,000
Anticipated closing stock of raw materials	2,60,000

Inventory norms
Raw materials- 8 weeks; Work-in-process - 2 weeks; Finished goods– 4 weeks; Credit allowed to debtors- 4 weeks; credit allowed by suppliers- 2 weeks. Cash balance desired to be maintained: ₹ 50,000. The company received an advance of ₹ 40,000 on sales orders.

2. a) Prepare a cash budget for the months of September, October, and November 2024 on the basis of the following information. **(5)**
a. Income and Expenditure forecasts:

Month (2024)	Credit sales (₹)	Credit purchases (₹)	Wages (₹)	Manufacturing expenses (₹)	Office expenses (₹)	Selling expenses (₹)
July	60,000	36,000	9,000	4,000	2,000	4,000
August	62,000	38,000	8,000	3,000	1,500	5,000
September	64,000	33,000	10,000	4,500	2,500	4,500
October	58,000	35,000	8,500	3,500	2,000	3,500
November	56,000	39,000	9,500	4,000	1,000	4,500
December	60,000	34,000	8,000	3,000	1,500	4,000

Contd...2

a. Cash balance on 1st September 2024 ₹ 12,000.
b. A plant costing ₹ 16,000 is due for delivery in November; only 10% of plant cost is payable in November and the balance after 3 months.
c. Advance tax of ₹ 8,000 each is payable in July and October.
d. The period of credit allowed by suppliers is 2 Months and credit allowed to debtors is 1 month.
e. Lag in payment of manufacturing expenses half (1/2) month.
f. Lag in payment of office and selling expenses 1 month.

b) Find out the optimum Cash balance as per Baumol model for the following data of Helco Ltd. **(10)**
Annual Cash needed ₹ 30,00,000, Transaction cost ₹ 1,000 per transaction. Interest rate 12% p.a
What are the opportunity cost of holding cash, transaction cost and Total cost?
If you maintain minimum cash balance of ₹1,50,000 or ₹ 2,50,000 or ₹ 3,00,000. Find out total cost.

3. a) Intergrated Enterprises require 2,50,000 units of a certain item annually. The cost per unit is ₹ 6, the cost per order 300 and the inventory carry cost is ₹ 6 per unit per year. **(5)**
   i. What is the economic order quantity?
   ii. What should the firm do if the supplier offers a discount as below?

Order Quantity	Discount
6500-7999	3%
8000 and above	4%

b) Motorola Ltd. currently makes all sales on credit and offers no cash discount. It is considering a 2 per cent cash discount for payment within 10 days. The firm's current average collection period is 60 days, sales are 4,00,000 units, selling price is ₹ 600 per unit, variable cost per unit is ₹ 400 and average cost per unit is ₹ 500 at the current sales volume. **(10)**

It is expected that the change in credit terms will result in increase in sales to ₹ 4, 50,000 units and the average collection period will fall to 45 days. However, due to increased sales, increased working required will be ₹ 20, 00,000 (it does not take into account the effect on debtors). Assuming that 50 per cent of the total sales will be on cash discount and 20 per cent is the required return on investment, should the proposed discount facility be offered?

4. a) Analyze the factors that influence a company's decision to use commercial papers for short-term financing. How does the issuance of commercial papers contribute to the liquidity and flexibility of a business? **(5)**

b) Determine the optimal mix of short-term and long-term financing for a manufacturing company facing seasonal demand fluctuations. Consider the risks and benefits associated with each type of financing in this context. **(10)**

5. a) "Liquidity and profitability are competing goals for the finance manager". Comment. **(5)**

b) a) The following are the details of the current assets and current liabilities of Grant Ltd. Find out the Maximum permissible bank finance as per the recommendations of Tandon Committee. **(10)**

Current Liabilities	₹ in lakh	Current Assets	₹ in lakh
Creditors	250	Raw materials	200
Other Current liabilities	50	Work-in-Progress	100
Bank borrowings	300	Finished Goods	200
		Receivables	300
		Other Current Assets	50
Total	600	Total	850

The Total Core assets (CCA) are ₹300 lakh.

b) Evaluate the factors contributing to the working capital gap in businesses, as highlighted by the Tandon Committee. How can companies identify and address these factors to optimize their working capital management?

SECTION – B

6. **Case study:** **(10)**

The following data pertain to a shop. The owner has made the following sales forecast for the first 5 months of the coming year:

January	80,000
February	90,000
March	1,10,000
April	1,20,000
May	1,00,000

Other data are as follows:

Debtors and creditors balance at the beginning of the year are ₹ 60,000 and ₹ 28,000 respectively.

a. The balance of other relevant assets and liabilities are:

Cash balance	₹ 15,000
stock	1,02,000
Accrued sales commission	7,000

b. 40 percent sales are on cash basis. Credit sales are collected in the month following sale.

c. Cost of goods sold is 60 percent of the sales

d. The only other variable cost is a 5 per cent commission to the sales agents. The sales commission is paid in the month after it is earned.

e. Inventory (stock) is kept equal to sales requirements for the next two months budgeted sales.

f. Trade creditors are paid in the following month after purchases

g. Fixed costs are ₹ 10,000 per month, including ₹ 4,000 depreciation.

You are required to prepare a cash budget for each of the first three months of the coming year.

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St Aloysius College (Autonomous)
Mangaluru
Semester III – P.G Examination – M.B.A
March - 2025
INTERNATIONAL FINANCIAL MANAGEMENT

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Is a floating rate system more inflationary than a fixed rate system? Explain. **(5)**

   b) A thorough knowledge of IFM is essential for the financial managers of MNCs. Explain the responsibility of finance managers in a global context. **(10)**

2. a) Explain the interconnection between current account convertibility and capital account convertibility. **(5)**

   b) Explore the factors that contribute to achieving equilibrium in the current account, emphasizing the role of trade balances, income flows, and transfer payments. **(10)**

3. a) Analyze the impact of global economic trends on the integration of emerging market participants. **(5)**

   b) Discuss the significance of international financial markets and highlight the key characteristics that distinguish international financial markets from domestic markets. **(10)**

4. a) Explain the term foreign exchange rate. Briefly identify the factors affecting foreign exchange rates. **(5)**

   b) Suppose the interest rate in ABD country is 24% per annum. Whereas, it is only 8% per annum in the US. You are considering investing $10,000 for 180 days in ABD's securities that are concerned about exchange risk. ABD's currency is the Crown.

   Find the following information in USD terms.

   ABD country (Crown) $0.10 spot rate.

   30 days forward 0.0980;

   90 days forward 0.0970;

   180 days forward 0.0950.

   (i) Calculate the forward premium or discount of the Crown against the USD based on a 180-day quotation.

   (ii) What is the net gain in USD from investing in ABD's securities relative to US securities, if it is assumed that the exchange rate in 180 days equals today's spot rate?

Contd...2

(iii) Suppose the Crown depreciates by 10% relative to that in the next 180 days then what is the net gain or loss from an uncovered position relative to investment in the US?

(iv) What is the net gain or loss from a covered position? Ignore transaction costs. **(10)**

5. a) Explain the reasons for executing multinational capital budgeting in MNCs. **(5)**

   b) A USG distributor has an opportunity to introduce a new product in the US. The organisation is planning to file a contract with other manufacturers to produce the product. However, USG distributors hold the licence for advertising, promoting and distributing the product for the next five years. Apart from this, the organisation can get the licence renewed after 5 years.

   The estimation of the cost and revenue of the project are as follows: Cost of equipment \$ 1,40,000; Working capital \$ 2,00,000; Overhaul of the equipment in 4 years \$ 20,000; Scrap value of the equipment in 5 years \$ 30,000.

   Annual Revenues and Costs: Revenue from the sale of goods \$ 4,00,000; Cost of goods sold \$ 2,00,000; Other costs (salaries, advertising, other direct costs) \$ 50,000.

   If the organisation does not renew the licence agreement after 5 years, it can release the working capital to invest in other projects. The organisation assumes a 12% discount rate.

   You are required to calculate the NPV of the project and suggest whether the organisation should select the project or not. **(10)**

SECTION – B

6. **Case study:** **(10)**

An Indian customer who imported equipment on 20th April 2023 from England has approached the bank to book a forward Euro contract. The delivery is expected to be somewhere during the 6 months from now.

The following rates are quoted:

\$/€ Spot 0.8453/0.8457

3 months Swap Points 5/8;

6 months Swap Points 10/15.

₹/\$ Spot 80.47/80.57

3 months Swap Points 10/20;

6 months Swap Points 20/30.

What rates should the bank quote if it needs a margin of 0.8%?

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

ORGANISATINAL CHANGE AND DEVELOPMENT

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any <u>FOUR</u> of the following questions **(4x15=60)**

1. a) In a rapidly changing industry, propose a driving force and a hindering force for change. **(5)**
   b) Elucidate the Appreciative Enquiry Model of change. **(10)**
2. a) Explain the concept of organizational renewal and its importance in the contemporary business environment. **(5)**
   b) With the help of suitable examples explain adaptive orientation model. Compare and contrast the four types of management orientations used in relating to the environment. **(10)**
3. a) Discuss the strategies that organizations can employ to ensure the sustainability of change initiatives. **(5)**
   b) Identify and briefly describe the types of Human Process OD interventions. **(10)**
4. a) Bring out the basic nature of Organizational Culture. **(5)**
   b) Analyze the impact of organizational culture on the quality of work-life for employees in a remote work setting. **(10)**
5. a) Explore the role of information technology in strengthening internal coordination. **(5)**
   b) Provide examples of how information technology has transformed traditional work processes. **(10)**

SECTION – B

6. **Case study:** **(10)**

Once upon a time in the ever-evolving landscape of work, the significance of company culture began to take center stage. In a revealing 2019 Glassdoor survey, it was unveiled that a substantial 56% of employees considered company culture more vital than their salary in determining job satisfaction. The understanding of this importance wasn't confined to employees alone; savvy employers recognized that the right work culture could foster engagement and, in turn, lead to heightened productivity. According to a Gallup study in the same year, engaged teams showcased a remarkable 14% increase in productivity and a staggering 81% decrease in absenteeism.

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Fast forward to the unfolding saga of remote work culture. A study by Owl Labs in 2022 discovered that the number of people choosing to work remotely soared by 24% compared to the preceding year, while hybrid work arrangements increased by 16%. The allure of flexibility and the freedom to work from diverse locations became an irresistible force.

Yet, with the advent of remote work, challenges emerged like shadows in the moonlight. The very fabric of company culture felt the impact as employees dispersed, physically separated from the camaraderie of the traditional office space. The casual drop-by at a colleague's desk or the chance hallway encounters, where ideas sparkled like stars in a shared conversation, became scarce. The nuanced cues of body language in face-to-face meetings were exchanged for the pixels on a screen.

Some employees, too, found solace in the routine of commuting to an office, a separation between the realms of work and home. The challenge loomed large for many companies as they sought ways to replicate these interactions and preserve the positive, engaging work culture of yesteryears. The remote normal tested the mettle of businesses, some faltering in the face of the new reality.

Yet, there's a silver lining to the remote work cloud. Companies could now save on office space costs, and employees, at least a significant 66% of them, reveled in the newfound flexibility. The prospect of a flexible job became a beacon of change; a change that companies had to adapt to and embrace.

As the remote work saga continues, the question arises: Can a positive culture thrive in the virtual corridors of remote work? The resounding answer is yes. It's not the death knell for culture; it's a transformation waiting to happen. Leaders and organizations have the power to recreate and nurture a positive culture, even in the realm of virtual work.

Questions- Each question carries 5 marks

1. In the evolving saga of remote work culture, how can virtual team-building activities and recurring virtual social events contribute to fostering a sense of togetherness among remote employees?
2. Considering the challenges of burnout and isolation in remote work, how can leaders proactively address these concerns to ensure sustained employee satisfaction and retention in the virtual landscape?

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

TALENT MANAGEMENT

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Discuss how various generations of workforce are managed effectively. **(5)**
   b) Analyse talent management as a strategic rethinking for a competitive advantage proposition. **(10)**
2. a) Discuss on return on investments concerning talent development. **(5)**
   b) What is talent segmentation? Explain the various criteria for segmenting talents in the organisation. **(10)**
3. a) Discuss the role of social media in talent attraction. **(5)**
   b) Elaborate the significance of EVP and discuss its elements. **(10)**
4. a) Explain the key elements in talent development. **(5)**
   b) Identify the significance of performance-linked incentives and also explain the elements of executive compensation. **(10)**
5. a) Briefly explain the concept of coaching. **(5)**
   b) Discuss the role of talent management in retaining talents. Elucidate various talent retention strategies adopted in a global context by a MNC. **(10)**

SECTION – B

6. **Case study:** **(10)**

Land Registry – modernizing the public sector The Land Registry is a government executive agency employing 300 people. Engaging and enthusing its staff has been a challenge for the organisation. The management has decided to revamp its Talent strategies. As a consultant provide suitable remedies to the firm.

Questions:

1. Suggest the various talent strategies which may suit the government organization. **(5 Marks)**
2. What are the various strategies that can be introduced to ensure employees are engaged at work. **(5 Marks)**

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St Aloysius College (Autonomous) ,Mangaluru
Semester III – P.G Examination – M.B.A
MARCH - 2025
INTERNATIONAL AND STRATEGIC HUMAN RESOURCE MANAGEMENT

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Elucidate the reason for Internationalization. **(5)**
   b) "The future belongs to those who prepare for it today". Discuss with respect to future trends and advancements in global HRM. **(10)**
2. a) Bring out the types of international assignments. **(5)**
   b) Discuss the components of pre-departure training. **(10)**
3. a) Define Parent Country Nationals (PCNs) and Third Country Nationals (TCNs) in the context of multinational corporations **(5)**
   b) Assess the impact of performance management on organizational culture and employee behaviour in multinational companies. **(10)**
4. a) "In Strategic Human Resource Management, the focus is not just on managing people, but on leveraging human capital to drive organizational success and achieve strategic goals." Discuss. **(5)**
   b) Evaluate the Strategies HR vs Traditional HR **(10)**
5. a) Discuss two key elements of effective Recruitment Strategies and their impact on organizational success. **(5)**
   b) Discuss the transformative impact of technology on HR practices, considering its implications for workforce management and organizational culture. **(10)**

SECTION – B

6. **Case study:** **(10)**

Tech Innovations Inc., a leading software development firm, grapples with escalating turnover rates among its engineering team. The company's high-paced environment and intense project schedules contribute to employee burnout and job dissatisfaction. Despite offering competitive salaries and perks, retaining top talent remains elusive for Tech Innovations Inc.

In one instance, a seasoned software engineer, Sarah, resigned after expressing frustration with the lack of work-life balance and limited opportunities for professional growth. Her departure underscores broader retention challenges facing the company, as talented employees seek environments conducive to career advancement and personal well-being.

Questions:

1. What underlying factors contribute to the high turnover rates experienced by Tech Innovations Inc.? *(5 Marks)*
2. What strategies can Tech Innovations Inc. implement to address work-life balance concerns and promote employee well-being? *(5 Marks)*

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

STRATEGIC BRAND MANAGEMENT

Time: 3 hrs. Max Marks: 70

SECTION - A

Answer any FOUR of the following questions (4x15=60)

1. a) Discuss the challenges and considerations in maintaining brand identity in diverse marketing platforms. (5)

   b) "The five dimensions of brand personality of Jennifer Aaker is a framework used to describe the profile and traits of a brand in five core dimensions, each divided into a set of facets using the analogy of a human being". Using Aaker's Brand Personality dimensions, analyze and analyse how each dimension is manifested in the Coca Cola's brand marketing and communication. (10)

2. a) Describe two direct and two indirect marketing channel options. (5)

   b) Within a decade of being founded by entrepreneur Falguni Nayar, with the goal of inspiring Indian women, Nykaa has evolved into one of India's largest cosmetics and lifestyle brands. Analyze and discuss how the Nykaa's marketing programs have contributed to the development of its brand equity. (10)

3. a) Discuss five key digital era trends and its implications for Branding and Brand Management (5)

   b) "Metaphors, in the context of ZMET, serve as powerful tools for expressing emotions, perceptions, and the complex interplay of thoughts related to specific aspects of consumers' lives." Examine the 10 steps in ZMET using a brand of your choice. (10)

4. a) Explain in brief the three major steps needed to implement a brand equity management system (5)

   b) As a marketing manager for Coca-Cola, design a brand tracking survey focused on consumer perceptions of the latest product variant. Specify the survey questions and metrics to measure its impact on brand perception. (10)

5. a) Differentiate using suitable examples when you will standardize global brands and when you will customize marketing mix elements in local markets for global brands. (5)

   b) "For most firms the question is not whether to extend the brand, but when, where, and how to extend it." Demonstrate using relevant examples the advantages and disadvantages of well-planned well implemented brand extensions. (10)

Contd...2

SECTION – B

6. **Case study:** **(10)**

Zomato, the restaurant discovery and food delivery app has recently taken over Mumbai Metro's announcement duties. Instead of 'Agla station Ghatkopar', the travellers heard, "Agla station (Chaat)kopar." It was a setup, of course. The lady behind the microphone immediately reminded people that if they heard "(Chaat)kopar instead of Ghatkopar", it meant they were hungry and could avail 60% off on Zomato. The creative and innovative advertising stunt works because, in Mumbai metros and local trains, travellers always focus on two things – the imagery outside the windows and the PSA. Why? Because both reveal which is the next station; the city is always in a hurry, isn't it?

And if these travellers hear something else, their minds, hearts, and ears immediately go on high alert – Zomato catches travellers in their most mindful moment. Adding to it, the stunt took place in Mumbai is by design because the city is one of the top users of the Zomato app. A simple reminder of 60% off will make them order from the app unlike a Tier II or III region where the brand will have to invest in converting interested folk into regular users, and such marketing stunts may not immediately lead to conversations, in this case, orders. Interestingly, as per Zomato's food-ordering trends from 2023, Mumbai resident Hanees was the nation's biggest foodie having placed 3,580 orders last year. Maharashtra stood second to Delhi when it came to demand for 'chaat' as per Zomato's website which lets you search for data around a particular food dish.

Questions:

a) Explain how Zomato's innovative advertising stunt in the Mumbai Metro leverages travellers' attention and mindfulness. How does it creatively engage with the audience's daily routine? **(5 marks)**

b) Assume you are a marketing strategist for a food delivery app. Propose a creative marketing stunt similar to Zomato's Mumbai Metro campaign for a different city or context. How can such stunts be tailored to specific locations? **(5 marks)**

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

CONSUMER BEHAVIOUR

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Identify the basis for segmentation of the teenage market based on consumption specific behaviour for soft drinks. **(5)**

   b) "The process component in the consumer decision-making model commences with the identification of a need and ends with evaluation of various alternatives." Discuss. **(10)**

2. a) Identify the various elements of learning citing relevant examples. **(5)**

   b) Discuss the personality trait theory & illustrate how marketers can adopt the trait theory to address various consumer traits. **(10)**

3. a) The Kano model of satisfaction measurers the characteristic features that convert 'satisfaction' into 'delight.' Analyze. **(5)**

   b) Apply the EL Model to the purchase of (i) luxury flats (ii) Home appliances. Examine each case in terms of the routes be adopted. Justify your answer. **(10)**

4. a) Discuss with relevant examples the type of normative & comparative influence exercised in case of membership group & symbolic groups. **(5)**

   b) Examine the dynamics of husband-wife decision making & the expanding role of children in decision making with relevant examples. **(10)**

5. a) Examine the level of problem solving in the following cases. Give reasons to support your answer. (i) Mr Alok is interested in purchasing a house in the city (ii) Mrs Banerjee is shopping for weekly groceries. **(5)**

   b) Examine the superiority of the cognitive model over the emotional model of consumer decision making. **(10)**

SECTION – B

6. **Case study:** **(10)**

The steadily declining effectiveness of traditional marketing approaches — from advertising to direct mail in the mailbox to email blasts — has been well-documented. Traditional marketing is too often equated with 'junk mail' or 'spam,' or annoyingly long commercial breaks that take you away from your Favourite TV program.

As explained in a recent article by Rutgers University researcher, Can Uslay, some companies are finding new and creative ways to market 'covertly' — that

Contd....2

is to engage with the customer without them knowing that they are watching an advertising initiative. A common and rather benign example of covert marketing is working with film companies to get your product prominently 'placed' in the action.

A more imaginative covert marketing campaign was launched after the biggest art theft in Swiss history, when thieves made off with $165 million worth of art from a museum in Zurich. The haul included a $90 million Cezanne called 'The boy in the red vest.' Suddenly, a video appeared on YouTube in which two masked men were shown hanging the painting on a wall. The press and public speculated on why the thieves would post the video, which quickly went viral, until the unveiling of what really happened: the masked men were two advertisers for a poster shop that sold genuine-looking replicas of famous paintings! The campaign, for what became the most famous poster shop in Switzerland, was recognized with numerous awards.

This example captures the essence of covert marketing. At first, the campaign is disguised: viewers of the viral Cezanne poster video did not know they were watching an advertisement. Then, once the campaign has garnered the maximum attention, there is a 'reveal,' which in itself ramps up the attention on the campaign. Finally, covert marketing can be accomplished with just a fraction of the cost of traditional marketing: how much did it cost the poster shop to create their Cezanne video?

All of this exemplifies the good of covert marketing. However, according to Uslay, there are also bad and ugly sides to covert marketing that companies should avoid.

The bad side of covert marketing is when incognito marketing crosses into shady ethical actions. Incognito marketing is marketing that is never revealed to the public — i.e. the public never learns that it viewed an advertising initiative. Product placement in movies is a common an innocuous example; in fact, it is barely incognito since most movie and television viewers are aware of the practice.

However, people may not be aware that McDonald's pays $5 any time a song that mentions Big Mac is played; thus, a seemingly artistic reference to pop culture is simply a commercial transaction.

Social media is especially vulnerable to unethical incognito marketing (also called 'social media astroturfing'). An obvious example involves fake user reviews. Planted positive reviews allow a restaurant or any other type of service business to spread a misleading picture of customer satisfaction. Or, on the contrary, a company might plant negative reviews about a competitor to hurt the competitor's reputation.

Companies are not always successful in keeping their ethically challenging incognito marketing incognito. For Uslay, unethical incognito marketing that is exposed to the public is the ugly side of covert marketing. Sony's reputation was tarnished when it was revealed that it used fictitious movie critics to praise its new releases. (Sony also had to fire two executives.) Samsung was found guilty for hiring students to write fake positive reviews about its products and to bash the products of competitors.

Questions:

1. Highlight the 'good' of covert marketing. How can marketers use covert marketing to their benefit without abusing the rights of consumers to avoid advertising?
2. What are the dangers/ ethical implications of covert marketing? Suggest a few strategies that companies could adopt to reduce distrust on the part of the consumer.

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

FINANCIAL MODELLING

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) XYZ Corporation recently secured Rs. 15,00,000 from HDFC Bank to finance a technological upgrade. The loan comes with an annual interest rate of 8%. The repayment plan involves eight equal annual installments. Calculate the installment amount. **(5)**

   b) Define the Time Value of Money (TVM) and explain its significance in financial decision-making. Provide examples to illustrate your answer. **(10)**

2. a) Following table provides the details of capital structure of and related costs of Sudhrma Ltd. Determine the weighted average cost of capital of the firm based on the book value weights.

Sources of Finance	**Amount (Rs)**	**Cost (%)**
Preference shares	2,00,000	12
Equity Share Capital	3,00,000	15
Retained Earnings	1,50,000	15
Debentures	3,50,000	10

(5)

   b) Company A has a beta of 0.9, while Company B has a beta of 1.5. If the risk-free rate is 5% and the market risk premium is 7%, compare the cost of equity for both companies using the CAPM. Explain the implications of the differences in their betas. **(10)**

3. a) Explain the key assumptions underlying the Dividend Discount Model. **(5)**

   b) The following information is available in respect of the rate of return on investment (r), the capitalization rate (Ke) and earnings per share (E) of Hypothetical Ltd.

   r= 12%, E= Rs. 20

   Determine the value of its shares, assuming the following;

	D/P ratio (1-b)	Retention ratio (b)	Ke (%)
A	10	90	20
B	20	80	19
C	30	70	18
D	40	60	17
E	50	50	16
F	60	40	15
G	70	30	14

(10)

Contd..2

4. a) Calculate the free cash flow to the firm from the information given Below.

Details	Year 1	Year 2	Year 3
Profit & Loss			
Operating Profit	1,617	1,740	1,792
Depreciation	162	177	220
Tax %	20%	16%	16%
Cash Flows			
Working capital changes	-262	-18	-58
Fixed assets purchased	-207	-234	-417
Fixed assets sold	7	9	17

(5)

b) Following is the pro-forma income statement of Wipro Ltd for the year ending March 2024.

Details	March-24
Net Sales	63940
Other Income	3110
Stock Adjustments	50
Total Income	67090
Raw Materials	2840
Employee Cost	31370
Other Manufacturing Expenses	9580
Selling and Admin Expenses	120
Miscellaneous Expenses	6970
Total Expenses	50890
Operating Profit	16200
PBDIT	19310
Interest	680
PBDT	15460
Depreciation	2160
Profit Before Tax	13290
PBT (Post Extra-ord Items)	13290
Tax	2950
Reported Net Profit	10340

Prepare a sensitivity analysis impacting on net profit if the following two states are expected,

State 1: Optimistic	State 2: Pessimistic
Sales will increase by 10%	Sales will increase by 10%
Employee cost increase by 5%	Employee cost will increase by 10%
Interest cost increase by 2%	Raw material cost increase by5%
Depreciation decrease by 2%	Interest cost increase by 2%

(10)

Contd..3

5. a) PQR Enterprises has acquired Rs. 12,00,000 in funding from ICICI Bank to fuel a new product development initiative. The loan agreement specifies an annual interest rate of 6%. The repayment structure consists of seven equal annual installments. Determine the installment amount. **(5)**

b) The actual returns and expected returns of a company is given in the below table for an event window of eleven days. You are required to calculate the Abnormal returns for the same event window. Further, calculate the t-statistics and determine the event significantly impacted the stock prices. (Use standard error value of 1.84).

Days	Actual Returns	Expected Returns
-5	0.151	-0.099
-4	-0.719	-1.133
-3	1.133	-1.024
-2	-0.4	-1.535
-1	-0.331	-0.755
0	-0.107	-0.342
1	-2.848	-1.205
2	1.828	0.666
3	-1.17	-0.681
4	0.826	0.824
5	1.853	1.613

(10)

SECTION – B

(10)

6. **Case study:**

On November 1, 2021 Tata Consultancy Services (TCS) announced the acquisition of W12 Studios, a digital design studio based in London, as part of efforts to bolster its digital and creative design capabilities. Mr. Ramesh is interested to whether this announcement resulted with any significant abnormal returns. Help Mr. Ramesh to analyze the impact of this event with the following information,

Intercept between TCS and Sensex Returns	-0.147
Beta between TCS and Sensex Returns	-0.261
Standard Error	4.804
Rsquare	0.002

Complete the following table

Date	TCS	SENSEX	AR	CAR	t Stats	Significant/ Not Significant
24-Oct-21	0.26	0.55				
25-Oct-21	0.24	-1.02				
26-Oct-21	-2.95	-1.02				
29-Oct-21	3.92	2.13				
30-Oct-21	1.26	-0.52				
31-Oct-21	2.26	1.61				
1-Nov-21	-0.12	-0.03				
2-Nov-21	-1.16	1.67				
5-Nov-21	-1.19	-0.17				
6-Nov-21	2.19	0.12				
7-Nov-21	0.49	0.70				
9-Nov-21	-1.71	-0.22				
12-Nov-21	0.30	-0.99				

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH – 2025

FORECASTING ANALYTICS

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Distinguish between trend and cyclical components with the help of an example? **5 Marks**

   b) Discuss the additive and multiplicative decomposition of a time series with suitable examples? **10 Marks**

2. a) Compare and contrast between moving average and simple exponential smoothing method of forecasting? **5 Marks**

   b) Following is the data of sales for HUL. Generate Holt' trend adjusted forecast series at α= 0.5 and β=0.3. Forecast the sales for 2023. **10 Marks**

Yearly Sales for HUL	
Year	**Sales**
2016	754
2017	758
2018	765
2019	772
2020	773
2021	771
2022	793

3. a) Write a note on the trend regression with seasonal dummies. Create seasonal dummies for the following data: **5 Marks**

Year	Quarter	Sales
2015	1	3083
	2	3066
	3	3156
	4	3184
2016	1	3481
	2	3396
	3	3789
	4	3827

   b) Discuss the Box-Jenkins Methodology of ARMA modelling? **10 Marks**

4. a) Suppose that you are examining the relationship between FII and DII. Specify two lag VAR equations. **5 Marks**

Contd...2

b) Following is the data of sales for HUL Ltd. Estimate linear trend regression. Forecast the sales for the 1st quarter of 2021. **10 Marks**

Year	Quarter	Sales
2019	1	2931
	2	2635
	3	2697
	4	2381
2020	1	2614
	2	2367
	3	2635
	4	2284

5. a) Discuss the advantages and disadvantages of VAR model. **5 Marks**

b) Following is the result of Granger causality tests between Domestic Institutional Investment (DII), Foreign Institutional Investment (FII) and Market Return (MR). Draw conclusion about the cause and effect relationship between these variables **10 Marks**

Null Hypothesis	F-Statistic	Prob.
DII does not Granger Cause FII	54.22	0.00
FII does not Granger Cause DII	24.48	0.00
MR does not Granger Cause FII	140.24	0.00
FII does not Granger Cause MR	0.84	0.43
MR does not Granger Cause DII	24.55	0.00
DII does not Granger Cause MR	0.32	0.72

SECTION – B

6. **Case study:** **10 Marks**

Below is the estimated trend regression for the quarterly sales of HUL Ltd.

Dependent Variable: Sales

Variable	Coefficient	Std. Error	t-Statistic	Prob.
T	-69.50683	13.83127	-5.025340	0.0000
T^2	4.731462	0.438640	10.78666	0.0000
T^3	-0.034655	0.003952	-8.769393	0.0000
D1	2888.502	124.0996	23.27567	0.0000
D2	2660.469	125.9657	21.12057	0.0000
D3	2786.839	127.7713	21.81116	0.0000
D4	2636.383	129.5335	20.35290	0.0000

a) Write the estimated trend regression.

b) Using the model, generate forecast series for the below data. Forecast the sales for the first quarter of 2021.

Year	Quarter	Sales
2019	1	3083
	2	3066
	3	3156
	4	3184
2020	1	3481
	2	3396
	3	3789
	4	3827

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St Aloysius College (Autonomous)

Mangaluru

Semester III – P.G Examination – M.B.A

MARCH - 2025

FORECASTING ANALYTICS

Time: 3 hrs. **Max Marks: 70**

SECTION - A

Answer any FOUR of the following questions **(4x15=60)**

1. a) Distinguish between forecasting and prediction with a suitable example. **(5)**

   b) Explain the components of a time series with suitable examples. **(10)**

2. a) Following is the estimated result of Holt's trend adjusted exponential smoothing method for the Sales data from 2010 to 2023.Write Holt's equations. Estimate the sales forecast for 2024, 2025, 2026 and 2027.

Parameters:	Alpha		0.34
	Beta		0.03
Sum of Squared Residuals			76901238
Root Mean Squared Error			980.4415
End of Period Levels:		Mean	18797.9
		Trend	230.4

(5)

   b) Construct seasonal indices for the following series using the average method. Generate the deseasonalised series

Year	Quarter	Y
2017	1	2931
	2	2635
	3	2697
	4	2381
2018	1	2614
	2	2367
	3	2635
	4	2284
2019	1	2701
	2	2483
	3	2583
	4	2353

(10)

3. a) Below is the estimated trend regression for the sales of Dabur India Ltd. Estimate the forecast series for the below data using the model. Forecast the sales for 2024.

Dependent Variable: Sales				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
T	273.23	118.98	2.30	0.042
T2	8.06	7.72	1.04	0.319
C	2924.49	387.93	7.54	0.000

Contd...2

Year	Sales
2014	4935
2015	5514
2016	5433
2017	5381
2018	5582
2019	6236
2020	6270
2021	7163
2022	8199
2023	8700

(5)

b) Following is the ARMA model for FII investment. Estimate the forecast series for the below data using the model

Dependent Variable: FII				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-287.53	125	-2.300	0.203
AR(1)	0.88	0.045	19.740	0.000
MA(1)	0.14	0.094	1.445	0.151

Year	FII	Residual
2011	-193	-104
2012	-325	-107
2013	-126	210
2014	114	230
2015	618	519
2016	847	264
2017	1154	403
2018	1261	220
2019	1291	181
2020	1100	-32
2021	960	27
2022	626	-193
2023	353	-140

(10)

4. a) Following is the result of Granger causality tests between Sensex (SEN), Nifty (NFT) and Foreign Institutional Investment (FII). Draw inference about the cause and effect relationship between these variables

Null Hypothesis	F-Statistic	Prob.
SEN does not Granger Cause NFT	32.15	0.00
NFT does not Granger Cause SEN	44.48	0.00
FII does not Granger Cause SEN	1.24	0.50
SEN does not Granger Cause FII	22.4	0.00
FII does not Granger Cause NFT	0.20	0.85
NFT does not Granger Cause FII	31.2	0.00

(5)

b) Following is the estimated VAR results of the relationship between Inflation (INF) and Exchange Rate (ER). Write the estimated VAR equations and interpret the results and draw inference about the relationship between the variables. (p values in the bracket)

	INF	**ER**
INF(-1)	0.24	0.32
	(0.03)	(0.00)
INF(-2)	0.42	0.03
	(0.21)	(0.09)
ER(-1)	0.19	0.13
	(0.02)	(0.04)
ER(-2)	0.081	0.05
	(0.08)	(0.33)
C	53.15	61.61
	(0.00)	(0.00)

(10)

5. a) Identify the true positives, true negatives, false positives and false negatives from the confusion matrix given below. Compute the accuracy score. **(5)**

		Predicted	
		0	**1**
	0	203	23
Actual	**1**	18	190

b) Discuss the principal component analysis algorithm highlighting the steps involved to perform PCA on a dataset **(10)**

SECTION – B

6. **Case study:** **(10)**

Following is the data of sales for Trident Ltd. Estimate the forecast series using the simple exponential smoothing (Alpha = 0.7). Forecast the sales for 2023Q1 and 2023Q2.

Quarter	**Sales**
2020Q1	708
2020Q2	1171
2020Q3	1290
2020Q4	1350
2021Q1	1477
2021Q2	1663
2021Q3	1958
2021Q4	1847
2022Q1	1667
2022Q2	1419
2022Q3	1618
2022Q4	1563

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