Total No. of Questions: 20

Enrollment No : _____

MEDICAPS UNIVERSITY

Faculty of Management Studies

End Semester Examination May 2025

MS5CO37 Forecasting Technique for Analytics

Programme	:	MBA	**Branch/Specialisation**	:	-
Duration	:	3 hours	**Maximum Marks**	:	60

Note: *All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.*

Section 1 (Answer all question(s))

Marks CO BL

Q1. Which of the following is not a feature of good forecasting? **1 1 1**

- ○ Accuracy
- ○ Timeliness
- ◉ Complexity
- ○ Cost Effective

Q2. Forecasting helps decision-making by: **1 1 2**

- ○ Eliminating uncertainty
- ◉ Providing estimates about the future
- ○ Predicting past events
- ○ Replacing managerial judgment

Q3. Which pattern shows a consistent increase or decrease over time? **1 2 1**

- ○ Horizontal
- ◉ Trend
- ○ Seasonal
- ○ cyclical

Q4. Seasonal variation in time series occurs due to: **1 2 2**

- ○ Long-term factors
- ○ Irregular events
- ◉ Calendar-related effects
- ○ Randomness

Q5. Which of the following is a qualitative forecasting technique? **1 3 1**

- ○ Regression analysis
- ◉ Delphi method
- ○ Exponential smoothing
- ○ Moving average

Q6. The least square method is used to: **1 3 2**

- ○ Minimize correlation
- ○ Maximize variance
- ◉ Minimize sum of squared errors
- ○ Normalize data

Q7. Which method uses the latest observation as the forecast? **1 4 1**

- ○ Simple average
- ○ Moving average
- ◉ Naive method
- ○ Exponential smoothing

Q8. Which of these is a smoothing technique? **1 4 2**

- ○ Regression analysis
- ○ Correlation
- ◉ Exponential smoothing
- ○ Interpolation

Q9. Which metric shows the average absolute forecast error? **1 5 1**

- ○ MAPE
- ◉ MAD
- ○ MSE
- ○ CFE

Q10. MAPE expresses errors in- **1 5 2**

- ○ Absolute values
- ○ Square units
- ◉ Percentage terms
- ○ Ratios

Section 2 (Answer all question(s))

Marks CO BL

Q11. Define forecasting. Mention any three objectives. **4 1 2**

Rubric	Marks
1 marks for definition and 1 mark each for objective	4

Q12. (a) Explain the process of forecasting with a neat diagram. **6 1 2**

Rubric	Marks
Four marks for process and 2 marks for diagram	6

(OR)

(b) Discuss the uses of forecasting in business decision-making with examples.

Rubric	Marks
1 mark each for uses and 1 mark each for example	6

Section 3 (Answer all question(s))

Marks CO BL

Q13. Differentiate between trend and cyclical data patterns. **4 2 4**

Rubric	Marks
1 marks for each difference	4

Q14. (a) Explain different data patterns in time series with examples. **6 2 2**

Rubric	Marks
1 mark for each data pattern and 1 marks for each example	6

(OR)

(b) Discuss the role of data warehouse and cleaning in forecasting.

Rubric	Marks
1 mark each for each role	6

Section 4 (Answer all question(s))

Marks CO BL

Q15. List any two qualitative and quantitative forecasting techniques. **4 3 5**

Rubric	Marks
2 mark each for qualitative and quantitative	4

Q16. (a) Explain the Delphi Method and its steps in detail. **6 3 1**

Rubric	Marks
3 mark for explanation and 3 marks for steps	6

(OR)

(b) Discuss the Least Squares Method and derive the formula for simple linear regression.

Rubric	Marks
2 mark for discussion and 4 marks for derivation	6

Section 5 (Answer all question(s))

Marks CO BL

Q17. Define smoothing techniques and give three examples. **4 4 2**

Rubric	Marks
1 mark for defination and 3 mark for example	4

Q18. (a) Explain exponential smoothing and compare first-order vs. second-order smoothing. **6 4 2**

Rubric	Marks
2 mark for Explain exponential smoothing and 4 marks for comparison	6

(OR)

(b) Discuss the application of linear and nonlinear trend models in forecasting

Rubric	Marks
1 mark for each application	6

Section 6 (Answer all question(s))

Marks CO BL

Q19. Define MAD and explain its importance. **4 5 2**

Rubric	Marks
1 mark for definition and 3 marks for 3 imortance	4

Q20. (a) Explain different error measures used in forecasting with formulas and examples. **6 5 2**

Rubric	Marks
2 marks for explanation and 2 marks for formula and 2 marks for example	6

(OR)

(b) How can control charts be used in monitoring and controlling forecasts?

Rubric	Marks
1 mark for each point	6

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