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Reg. No:

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Degree Examination, November 2025

ECO3MN201– Trading and Investing With Technical Analysis

(FYUGP 2024 Admission onwards)

Time: 2 hours

Max. Marks : 70

PART – A

(All questions can be attempted. Each question carries three marks. Ceiling - 24 Marks)

No.	Question	COs	KL	Marks
1	Define Technical Analysis and explain its core objective.	CO1	R	3
2	List and state key assumptions of Technical Analysis.	CO1	R	3
3	Describe the concept of Market Cycles.	CO1	U	3
4	Explain the anatomy and history of a candlesticks with examples.	CO2	U	3
5	Demonstrate how Long-Day and Short-Day candlesticks differ.	CO2	Ap	3
6	Interpret a Doji candle and explain what it signals.	CO2	Ap	3
7	Illustrate the Morning Star pattern and interpret its meaning.	CO2	Ap	3
8	Identify and explain the significance of a Double Top pattern in trading.	CO2	Ap	3
9	Explain what the letter 'S' represents in CANSLIM.	CO6	R	3
10	Explain the purpose of using 'Chartink' in trading.	CO4	U	3

PART – B

(All questions can be attempted. Each question carries six marks. Ceiling - 36 Marks)

No.	Question	COs	KL	Marks
11	Differentiate between Technical and Fundamental Analysis using examples.	CO1	U	6
12	Explain the process of Peak and Trough Progression Analysis.	CO1	U	6
13	Illustrate Harami and Above/Below the Stomach patterns.	CO2	Ap	6
14	Demonstrate Three White Soldiers and Three Black Crows patterns.	CO2	Ap	6
15	Analyse how the length and shadow of a candlestick influence interpretation.	CO3	An	6
16	Explain the construction and usage of the RSI indicator.	CO3	An	6
17	Explain how MACD can be used to identify momentum	CO3	Ap	6
18	Describe how Support and Resistance levels can be drawn	CO3	Ap	6

PART – C

(Answer any one question. Each question carries ten marks.)

No.	Question	COs	KL	Marks
19	Explain Dow Theory and its relationship with Fibonacci retracements.	CO3	An	10
20	Analyze SMA and EMA moving averages and explain how crossover strategies are applied in trading.	CO3	An	10

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Degree Examination, November 2025

ECO3CJ201– Introduction to Statistical Methods In Economics

(FYUGP 2024 Admission onwards)

Time: 2 hours

Max. Marks : 70

Course Outcome Mapping

Q No.	1	2	3	4	5	6	7	8	9	10
CO's	CO1	CO2	CO2	CO2	CO3	CO3	CO3	CO3	CO6	CO6
CL	U	U	U	Ap	Ap	Ap	Ap	An	U	Ap
Q No.	11	12	13	14	15	16	17	18	19	20
CO's	CO2	CO2	CO3	CO3	CO4	CO4	CO3	CO6	CO6	CO7
CL	Ap	Ap	Ap	An	An	An	An	Ap	Ap	Ap

PART-A

All questions can be attended. Each question carries 3 marks (Max Ceiling: 24 Marks)

- Briefly examine the major applications of statistics in different branches of economics.
- Which sampling technique involves selecting districts, panchayats, and households in successive stages, and why is it suitable for large-scale surveys?
- List any three digital survey platforms and briefly explain their main advantages and limitations.
- The following are the monthly incomes (in ₹ thousands) of 20 households collected from a locality. Using Sturges' Rule, prepare continuous frequency distribution table.

35	42	28	31	48	52	46	29	39	33
44	37	50	41	47	55	32	36	40	38

- The average income of 5 persons in a group is ₹20,000. When another person joins the group, the average income increases by ₹2,000. Find the income of the new person.
- The mean of a distribution is 35.4 and the mode is 32.2. Using the empirical relationship between mean, median, and mode, find the median, assuming that the distribution is moderately skewed (i.e., skewness is small) and the sample size is large.
- If the mean mark of a test is 50 and the standard deviation is 5, find the Z-score of a student who scored 60.
- Difference between Covariance and Correlation?
- State the addition and multiplication theorem of probability.

10. If $P(A) = 0.5$, $P(B) = 0.4$, and $P(A \cap B) = 0.2$, find:

- $P(A \cup B)$
- $P(A' \cap B)$
- $P(A | B)$.

PART-B

All questions can be attended. Each question carries 6 marks (Max Ceiling: 36 Marks)

11. You are conducting a socio-economic survey among 50 households in your locality to study living conditions and spending patterns. Design four variables for a socio-economic survey – each representing one of the four measurement scales (Nominal, Ordinal, Interval, Ratio) – and explain why each fits that scale and how it influences the choice of statistical methods.
12. You are asked to conduct a survey on students' study habits and use of mobile phones for learning in your college. Prepare an ideal questionnaire for this study.
13. A small survey was conducted among 20 college students to study the relationship between gender and preference for mode of learning. The data collected are as follows. Prepare a cross tabulation (two-way table) showing the relationship between Gender and Preferred Mode of Learning.

Student	Gender	Preferred Mode of Learning
1	Male	Online
2	Female	Offline
3	Male	Online
4	Female	Offline
5	Female	Online
6	Male	Offline
7	Female	Online
8	Male	Online
9	Female	Offline
10	Male	Online
11	Female	Offline
12	Male	Online
13	Male	Offline
14	Female	Online
15	Male	Offline
16	Female	Offline
17	Female	Online
18	Male	Online
19	Male	Offline
20	Female	Online

14. Explain how the Standard Deviation (SD) overcomes the limitations of the earlier measures of dispersion such as Range, Quartile Deviation, and Mean Deviation.
15. The following data represent the scores of 7 students in a quiz (out of 20). Calculate Gamma measure of skewness and comment on the distribution shape?

Roll No. of Student	Score
1	5
2	7
3	9
4	10
5	12
6	15
7	18

16. The following are the marks obtained by 10 students in a statistics test. Draw a box-and-whisker plot and Comment on the shape of the distribution and outliers

Marks	20	25	28	30	35	38	40	42	50	60	100
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17. A teacher wants to compare the overall performance and consistency of students in two subjects – Economics and Statistics – based on their semester exam scores. To analyze the results objectively, she used Excel's Descriptive Statistics tool to summarize key measures.

Statistic	Economics Scores	Statistics Scores
Mean	68.5	74.2
Median	70.0	75.0
Mode	72.0	78.0
Standard Deviation	6.8	8.5
Variance	46.24	72.25
Skewness	-0.28	-0.62
Kurtosis	-0.45	+0.35
Range	22.0	30.0
Minimum	55.0	60.0
Maximum	77.0	90.0
Count (N)	10	10

- Which subject shows greater variability in students' performance?
- Compare the means of the two subjects – which subject did students perform better?
- Comment on the distribution shape?
- What does the range tell us about the spread of marks in each subject?
- If a student scored 75 in Economics and 80 in Statistics, which score is relatively better compared to each subject's mean and standard deviation?

- f. Discuss whether mean or median would be a more reliable measure of central tendency for these datasets, and why.
18. The following data show the number of employees who received promotions and training in a firm. Find: $P(\text{Promoted} | \text{Attended training})$, $P(\text{Attended training} | \text{Promoted})$, Are promotion and training independent?

Training	Promoted	Not Promoted	Total
Attended	30	20	50
Not Attended	10	40	50
Total	40	60	100

PART-C

Answer any one question. Question Carries 10 marks

19. The following data show the scores of 8 students in two subjects, Economics (X) and Statistics (Y). Compute the Karl Pearson's coefficient of correlation (r) and Spearman's rank correlation coefficient (ρ) and interpret and Compare the results.

Student	X (Economics)	Y (Statistics)
1	35	30
2	40	38
3	45	42
4	50	46
5	55	50
6	60	58
7	65	62
8	70	65

20. What is Bayes Theorem. A company has three suppliers A, B, and C providing 30%, 40%, and 30% of its raw material respectively. The defective rates from each supplier as $A = 2\%$, $B = 3\%$, $C = 4\%$. If a randomly chosen unit is defective, find the probability that it was supplied by B.

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Degree Examination, November 2025

ECO3CJ202– Mathematical Methods for Economics

(FYUGP 2024 Admission onwards)

Time: 2 hours

Max. Marks : 70

PART – A

All questions can be attended.
Each question carries **Three** mark.
Ceiling -24 Marks

		COs	Knowledge Level(KL)	Marks
1	Examine the conditions of relative maxima and minima.	Ap	C,P	3
2	Find the partial derivatives of the function $Z = 3x^2 + 4xy^2 - wy$	U	C	3
3	Define MRTS.	U	C,P	3
4	What is meant by income elasticity of demand.			3
5	Given MU function for good X is $MU_x = 10 - X$ find TU.	Ap	C,P	3
6	List out the conditions for profit maximization.	An	C,P	3
7	Evaluate $\int_3^6 2x^2 dx$.	U	C,P	3
8	Given the demand function $q = 10 - 14P + P^2$. Find elasticity at $P = 8$.	Ap	C,P	3
9	What do you mean by constraint optimization.	An	C,P	3
10	If $AR = 5 - 2x$, find TR and MR.	U	C	3

PART – B

All questions can be attended.
Each question carries six marks.
Ceiling -36 Marks

		COs	Knowledge Level(KL)	Marks
11	Given the utility function $U = 5q_1q_2$ and budget constraint $q_1 + 2q_2 = 8$, find equilibrium quantities of q_1 and q_2 that will maximize the utility function.	Ap	C,P	6

12	Define consumer surplus. If the demand function of a commodity is $Y = 36 - x^2$, find consumer surplus for $Y = 11$	U	C,P	6
13	Explain the concept of cross elasticity of demand. If $Q_1 = 20 - 2P_1 + 3P_2$, find E_{12} when $P_1 = 2$ and $P_2 = 5$	U	C	6
14	What you mean by definite integral. List out the properties if definite integral.	U	C,P	6
15	Explain the concept of Concavity and convexity. How are they identified using derivatives.	An	C,P	6
16	Given the production function $Q = 8K + 9L + 6K^2 - 5L^2 + 9KL$, find MP_L and MP_K .	U	C	6
17	How can partial derivatives be used to identify the optimum points in a function of two or more variables.	An	C,P	6
18	Why are mathematical methods essential in economic analysis? Discuss with examples.	An	C,P	6

PART - C

Answer any *one* questions.
Each question carries **Ten** marks.

		COs	Knowledge Level(KL)	Marks
19	If the monopolist faces the cost function $C = 3 + 2q$ and sells his production two markets 1 and 2, and if the demand functions are $P_1 = 12 - q_1$, $P_2 = 20 - q_2$, find the profit maximizing output and prices charged in different markets.	Ap	C, P	10
20	Examine the relationship between MC and AC. Given the cost function $C = 2q^3 - 15q^2 + 30q + 16$, show that $AC = MC$ when $q = 4$	An	C, P	10

1 x 10 = 10 Marks