

# C P PATEL AND F H SHAH COMMERCE (AUTONOMOUS) COLLEGE, ANAND

(Managed by SARDAR PATEL EDUCATION TRUST, ANAND)

AFFILIATED TO SARDAR PATEL UNIVERSITY, V V NAGAR

An ISO 9001 2015 Certified / An ISO 14001-2015 Certified / An ISO 21001-2018 Certified  
GUJARAT INSTITUTIONAL RATING FRAMEWORK (4 STAR)

AAA Reaccredited CGPA 3.56 – GRADE **A<sup>+</sup>** KCG-Dept of Edu. Got of Gujarat-April 2017

NAAC Reaccredited - CGPA 3.30 - GRADE **'A<sup>+</sup>'** UGC – MHRD, Govt of India – June 2022

Syllabus as per NEP 2020 with effect from the Academic Year 2024-2025

## Bachelor of Business Administration (BBA)

### Semester - III

Course Code	UM3MDBBA01	Title of the Course	Business Mathematics-II
Total Credits of the Course	04	Hours per Week	04

Course Objectives	1. To understand Interpolation and Extrapolation as methods for estimating unknown values within and beyond observed data points.
	2. To understand the concepts of Arithmetic progression (AP) and Geometric progression (GP).
	3. To understand the fundamental concepts of Permutations and Combinations.
	4. To develop proficiency in students in using PERT and CPM techniques for effective project management.

Course Content		
Unit	Description	Weightage (%)
1.	<b>Interpolation and Extrapolation</b> Meaning of Interpolation and Extrapolation, Assumptions, Importance of Interpolation and Extrapolation, Operators $\Delta$ and $E$ (without proof), Methods of Interpolation and Extrapolation: (1) Newton's Method (2) Binomial expansion method (3) Lagrange's method and Applications based examples on these methods.	25 %
2.	<b>Arithmetic Progression and Geometric Progression:</b> Meaning of sequence and series, Meaning and definition of Arithmetic Progression, $n^{\text{th}}$ term of AP, Sum of $n$ terms of AP, Meaning and Definition of Geometric Progression, and Geometric Progression, $n^{\text{th}}$ term of GP, Sum of $n$ terms of GP, Application of AP and GP in commerce	25 %

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<b>3.</b>	<b>Permutations and Combinations:</b> Fundamental principle of counting, Meaning of permutations and combinations, Theorem based on permutations and combinations, Permutations of things not all different, Permutations when repetition is allowed, Examples of permutations and combinations, Application of permutations and combinations in commerce.	<b>25%</b>
<b>4.</b>	<b>PERT and CPM:</b> Meaning and characteristics of PERT, PERT chart with the explanation of activities and events, D R Fulkerson's rules for numbering the events, Dummy activity, Estimates of time of activities, Earliest start time(EST), Earliest finishing time (EFT), Latest starting time (LSD), Latest finishing time (LFT), Float time (FT), Meaning of Critical path Method (CPM), Difference between PERT and CPM uses and Limit of PERT and CPM, Application of PERT and CPM in Management	<b>25 %</b>

<b>Teaching-Learning Methodology</b>	Lectures, Assignments, Quizzes, Seminars, Content- Focused Methods, Interactive / Participative Methods and Online lectures.
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<b>Evaluation Pattern</b>		
<b>Sr. No.</b>	<b>Details of the Evaluation</b>	<b>Weightage</b>
1.	Written Examination	25%
2.	Internal Continuous Internal Assessment in the form of Quizzes, Seminars, Assignments, Viva voce, Attendance	25%
3.	Semester End Examinations	50%

<b>Course Outcomes</b>	
<b>1.</b>	Students would be able to use the concept of Interpolation and Extrapolation in data analysis, forecasting and decision making in business contexts.
<b>2.</b>	Students will be able to apply AP and GP concepts in financial calculations and business scenarios.
<b>3.</b>	Students will be proficient in using Permutations and Combinations for arranging and selecting items in various scenarios.

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4.	Students will be able to create and analyze project schedules using PERT and CPM methods to ensure timely and efficient project completion.
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## Suggested References

Sr. No.	References
1	Sancheti & Kapoor (2010): Statistic: Theory, Methods and Applications, Sultan Chand & Sons, New-Delhi.
2	Trivedi and Trivedi (2011): Business Mathematics, Pearson India Limited. New Delhi.
3	Sharma, J. K (2006): Quantitative Techniques For Managerial Decisions, Macmillan
4	Taha H. A (2007): Operations Research: An Introduction, Pearson/ Prentice Hall
5	Sing J K (2017): Business Mathematics, Himalaya Publishing House
6	Soni, R. S (2009): Business Mathematics, Pitamber Publishing House.
7	H R Vyas (2017): Business Mathematics : B S Shah Publication, Ahmedabad

On-line resources to be used if available as reference material

On-line Resources:

<https://atozmath.com/default.aspx>



<https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=ZLCHeZEhCZ8yCri36nSF3A==>

