

# SREE NARAYANA GURU COLLEGE OF COMMERCE

(LINGUISTIC MINORITY INSTITUTION)

RE-ACCREDITED BY NAAC (GRADE-'B'-CGPA 2.45) [2019-2024]

AFFILIATED TO UNIVERSITY OF MUMBAI & RECOGNISED BY UGC-u/s 2(f)&12B

MANAGED BY SREE NARAYANA MANDIRA SAMITI (REGD.)

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## PROGRAMME OUTCOMES

PROGRAMME CODE: 1151761	NAME OF THE PROGRAMME: <b>BACHELOR OF SCIENCE (DATA SCIENCE)</b>
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### Programme Outcomes:

PO1: Graduates will possess a comprehensive skill set in data analysis, including the ability to collect, clean, and analyze data using statistical methods and programming languages.

PO2: Graduates will demonstrate expertise in machine learning techniques, enabling them to develop and deploy predictive models for various applications.

PO3: Graduates will be proficient in utilizing big data technologies, such as Hadoop and Spark, for processing and analyzing large datasets efficiently.

PO4: The program will prepare students to apply data science techniques effectively in diverse domains, addressing industry-specific challenges.

PO5: Graduates will exhibit ethical awareness and responsible practices in data science, considering privacy concerns and societal implications in their work.

PO6: Graduates will develop strong communication skills, both written and oral, and the ability to visually communicate complex data-driven insights through effective data visualization techniques.

PO7: The program will foster critical thinking skills, empowering graduates to approach complex problems systematically and devise innovative solutions using data-driven methodologies.

PO8: Graduates will embrace a culture of continuous learning, staying informed about emerging technologies and methodologies in data science, and adapting to industry advancements.

PO9: The program will instill the ability to collaborate effectively in multidisciplinary teams, leveraging data science expertise to contribute to broader organizational objectives.

PO10: Graduates will have engaged in hands-on, real-world projects, demonstrating their ability to apply theoretical knowledge to practical scenarios and solving authentic data science problems.

PO11: Graduates will possess skills in designing and conducting both quantitative and qualitative research, contributing to the advancement of knowledge in the field.

PO12: The program will nurture leadership skills, enabling graduates to make informed, data-driven decisions and contribute to strategic planning within organizations.

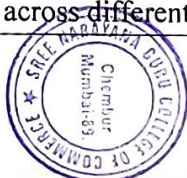


## COURSE OUTCOMES

<b>SEMESTER I</b>	
COURSE CODE: 1041111	COURSE TITLE: PYTHON PROGRAMMING
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Use variables with different data types and input output functions. (2)*</p> <p>CO2: Use control statements and operators in programming. (2)*</p> <p>CO3: Get Proficiency in using function and strings. (6)*</p> <p>CO4: Acquire knowledge of dictionaries, (1)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 1041112	COURSE TITLE: <b>DESCRIPTIVE STATISTICS</b>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Organize, manage and present the data. (3)*</p> <p>CO2: Understand the use Measures of Central Tendencies and Dispersion. (2)*</p> <p>CO3: Understand and compute the consistent and inconsistent data. (5)*</p> <p>CO4: Understand and compute the consistent and inconsistent data. (5)</p> <p>CO5: Understand forecasting techniques and to find cause and effect relationship between variable through regression analysis. (5)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 1041113	COURSE TITLE: <b>PRACTICAL 1</b>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Use all data types in different ways. (2)*</p> <p>CO2: Acquire knowledge to implement user defined, built in and lambda functions. (1)*</p> <p>CO3: Make a use of arrays and strings in python programming. (3)*</p> <p>CO4: Understand data analysis through programming. (2)*</p> <p>CO5: Study the relationship between variables using techniques of correlation and regression. (4)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 1171312	COURSE TITLE: <b>ENTREPRENEOURSHIP MANAGEMENT</b>
VERTICAL/CATEGORY	VERTICAL 3/OPEN ELECTIVES
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Recognize the fundamental components of the business. (1)*</p> <p>CO2: Evaluate the impact of traditional and modern business activities. (3)*</p> <p>CO3: Apply theoretical knowledge to real world scenarios within the business sector. (3)*</p> <p>CO4: Create comprehensive understanding of the risks and challenges associated with business world. (6)*</p>	



<b>SEMESTER I</b>	
COURSE CODE: <b>1201311</b>	COURSE TITLE: <b>BASICS OF FINTECH</b>
VERTICAL/CATEGORY	VERTICAL 3/OPEN ELECTIVES
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Demonstrate a comprehensive understanding of the fin tech ecosystem, including fintech infrastructure and fintech evolution (1)*</p> <p>CO2: Evaluate the impact of fintech innovation on traditional financial services identifying opportunities and challenges of the industry (5)*</p> <p>CO3: Apply fintech concepts and technologies to address real world financial challenges and opportunities (3)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 1041411	COURSE TITLE: <b>EXCEL FOR BUSINES</b>
VERTICAL/CATEGORY	VERTICAL 4/VSC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Gain a foundational understanding of spreadsheet structure and the components of financial models. (2)*</p> <p>CO2: Acquire the skills to choose and use appropriate software tools for financial modelling tasks. (1)*</p> <p>CO3: Understand the anatomy of a financial model workbook and plan projects efficiently. (2)*</p> <p>CO4: Apply aggregation, lookup, regression, and financial project evaluation functions in modelling scenarios. (3)*</p> <p>CO5: Gain expertise in formatting, using form controls, creating PivotTables, and employing various tools for effective financial modelling. (6)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 1041413	COURSE TITLE: <b>DIGITAL MARKETING</b>
VERTICAL/CATEGORY	VERTICAL 4/SEC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Understand the concept of digital marketing and its integration with traditional marketing. (2)</p> <p>CO2: Understand Customer value journey in digital context and behaviour of online consumers. (2)*</p> <p>CO3: Understand social media marketing and apply the learnings to create digital media campaigns (3)*</p> <p>CO4: Examine various tactics for enhancing a website's position and ranking with search engines. (4)*</p> <p>CO5: Leverage the digital strategies to gain competitive advantage for business and carrier. (3)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 2511511	COURSE TITLE: <b>BUSINESS COMMUNICATION SKILLS - I</b>
VERTICAL/CATEGORY	VERTICAL 5/AEC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to:</p> <p>CO1: Demonstrate an understanding of essential aspects of communication skills. (2)*</p> <p>CO2: Exhibit the ability to Read a variety of written text using subskills such as skimming and scanning. (1)*</p> <p>CO3: Identify and rectify common grammatical errors in English. (3)*</p> <p>CO4: Show competence in delivering compelling presentations and engage in articulate and effective conversations in English across different contexts. (4)*</p>	



CO5: Display advanced formal writing skills in crafting job application letters, CVs, and Statements of Purpose. (6)\*

**SEMESTER I**

COURSE CODE: 2541511

COURSE TITLE: **INDIAN CONSTITUTION**

VERTICAL/CATEGORY

VERTICAL 5/VEC

**Course Outcomes:** After successful completion of the course, students will be able to:  
CO1: Empowered to understand the basic structure, nature of Indian Constitution. (2)\*  
CO2: Understand their and other citizens fundamental rights and duties towards the nation. (4)\*  
CO3: Equipped with the role of Indian Judiciary in protecting Fundamental Rights of citizens and will be able to describe areas of criminal justice, law and society through a critical analysis of the subject. (1)\*

**SEMESTER I**

COURSE CODE: **2531511**

COURSE TITLE: **INDIAN KNOWLEDGE SYSTEM SERIES (GENERIC - I)**

VERTICAL/CATEGORY

VERTICAL 5/IKS

**Course Outcomes:** After successful completion of the course, students will be able to;  
CO1: Understand and appreciate the foundations of Indian knowledge traditions and their relevance in modern management practices. (2)\*  
CO2: Analyze and critically evaluate various Indian knowledge systems, including ancient economics, management strategies, and ethical frameworks. (4)\*  
CO3: Apply modern tools and technology to present and disseminate traditional Indian knowledge effectively through digital and social platforms. (3)\*  
CO4: Demonstrate sensitivity towards diverse cultural, social, and ethical values from India's knowledge traditions, promoting inclusivity and respect for all. (3)\*  
CO5: Cultivate teamwork, leadership, and problem-solving skills by engaging with historical case studies of Indian governance, trade, and management. (4)\*

**SEMESTER I**

COURSE CODE: **2521612**

COURSE TITLE: **NSS**

VERTICAL/CATEGORY

VERTICAL 6/CC

**Course Outcomes:** After successful completion of the course, students will be able to:  
CO1: Comprehend the foundations of the National Service Program. (2)\*  
CO2: To understand the unique camping program. (2)\*  
CO3: Learn about the regular activities of NSS. (1)\*

**SEMESTER I**

COURSE CODE: **2521611**

COURSE TITLE: **CA**

VERTICAL/CATEGORY

VERTICAL 6/CC

**Course Outcomes:** After successful completion of the course, students will be able to;  
CO1: Understand the significance of cultural activities. (2)\*



- CO2: Sensitize students towards Indian culture and its preservation. (1)\*  
 CO3: Apply the knowledge and skills of the cultural activities in their practical life. (3)\*  
 CO4: Participate in the various cultural activities. (6)\*

**SEMESTER I**

COURSE CODE: **2521615**

COURSE TITLE: **SPORTS**

VERTICAL/CATEGORY

VERTICAL 6/CC

**Course Outcomes:** After successful completion of the course, students will be able to:

CO1: The curriculum would enable the pass out students to be entrepreneur (to start their own fitness center, gym, yoga studio etc.) and device appropriate fitness program for different genders and age groups at all level. (6)\*

CO2: The curriculum would enable to officiate, supervise various sports events and organize sports events. (1)\*

CO3: Students acquire the knowledge of Physical Education, Sports and Yoga and understand the purpose and its development. (2)\*

CO4: The student learns to plan, organize and execute sports events. (2)\*

CO5: Student will learn theoretical and practical aspects of game of his choice to apply at various levels for teaching, learning and coaching purposes efficiently. (2)\*

CO6: Student acquires the knowledge of opted games, sports and yoga and also learns the technical and tactical experience of it. (3)\*

CO7: Student will learn to apply knowledge of Physical fitness and exercise management to lead better quality life. (3)\*

CO8: Students will understand and learn different dimension of active life style. (2)\*

CO9: Student will learn the knowledge of nutrition and diet. (1)\*

CO10: Students will be able to assess the physical fitness in a scientific way. (4)\*

CO11: The students will be able to continue professional courses and research in Physical Education, sports and yoga. (5)\*

CO12: It helps the student to understand theory and practical aspects of physical literacy. These aspects include role of motivation and confidence, how to focus on positive experience, new styles of teaching, inclusive session planning and review the progress in physical activities. (2)\*

**SEMESTER I**

COURSE CODE: 2521616

COURSE TITLE: **EXTENSION WORK**

VERTICAL/CATEGORY

VERTICAL 6/CC

**Course Outcomes:** After successful completion of the course, students will be able to;

CO1: Enhance communication, organization, and presentation skills for effective extension work. (2)\*

CO2: Gain understanding of key societal issues and foster community responsibility. (2)\*

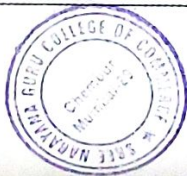
CO3: Improve teamwork through group activities and community outreach. (5)\*

CO4: Nurture innovation through storytelling, performances, and creative projects. (4)\*

CO5: Apply knowledge in real-world scenarios via seminars, surveys, and field activities. (3)\*



SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>ADVANCED PYTHON PROGRAMMING</b>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Use lists and tuples in python programming. (3)*</p> <p>CO2: Implement different regular expressions. (3)*</p> <p>CO3: Use date time in python programming. (3)*</p> <p>CO4: Acquire knowledge of Numpy. (1)*</p> <p>CO5: Proficiency in handling, manipulating and visualizing data. (5)*</p>	
SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>DATABASE MANAGEMENT SYSTEM</b>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Understand concept of database by organizing, structuring and storing data. (2)*</p> <p>CO2: Understand data models and entity relationship. (2)*</p> <p>CO3: Understand retrieve data and concept of redundancy. (2)*</p> <p>CO4: Specify the data requirement in database applications. (5)*</p> <p>CO5: Create, manipulate queries in database. (6)*</p>	
SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>PRACTICAL 2</b>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Use list tuples in different ways using python programming. (2)*</p> <p>CO2: Implement different regular expression for search and replace operations. (3)*</p> <p>CO3: Use date and time with different format in python programming. (3)*</p> <p>CO4: Use Numpy in python programming. (3)*</p> <p>CO5: Acquire knowledge about pandas libraries and implement it. (6)*</p> <p>CO6: Perform various operations such as insert, update delete and retrieve data from database using SQL queries. (5)*</p> <p>CO7: Perform alteration in tables and can restore and take backup of the database (3)*</p> <p>CO8: Perform operations using simple SQL Queries to fetch data and learns various aggregate functions to get single value. (6)*</p> <p>CO9: Perform SQL Queries using JOIN keyword for joining two or more tables. (6)*</p> <p>CO10: Perform nested queries using in, exists operators. (6)*</p>	
SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>ELEMENTARY STATISTICS</b>
VERTICAL/CATEGORY	VERTICAL 2/MINOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Choose appropriate correlation method to data and interpret correlation between two variables using scatter diagram, Karl Pearson's Product moment correlation coefficient, Spearman's Rank correlation coefficient. (5)*</p> <p>CO2: Obtain regression coefficient using least square method of estimation and apply method to real life problem. (6)*</p> <p>CO3: Understand Nature of time series data and solve real life problems using freehand curve method, semi average method, moving average method, least square method, etc. (2)*</p>	
SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>HUMAN RESOURCE</b>



	<b>MANAGEMENT</b>
VERTICAL/CATEGORY	VERTICAL 3/OE
<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO1: Develop practical skills in various HRM functions, such as recruitment, selection (3)* CO2: Acquire proficiency in talent management strategies, including attracting, retaining, and developing talent. (5)* CO3: Learn strategies to enhance positive work environment conducive to high performance and organizational success. (2)*	
<b>SEMESTER II</b>	
COURSE CODE:	COURSE TITLE: <b>PRINCIPLES AND PRACTICES OF MANAGEMENT</b>
VERTICAL/CATEGORY	VERTICAL 3/OE
<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO 1: Understand concept of management (2)* CO 2: Apply Management functions. (3)*	
<b>SEMESTER II</b>	
COURSE CODE:	COURSE TITLE: <b>DISCRETE MATHEMATICS</b>
VERTICAL/CATEGORY	VERTICAL 4/VSC
<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO1: Read, interpret and write basic mathematical notations. (5)* CO2: Determine types of mathematical relations and functions (2)* CO3: Use various counting techniques to solve an appropriate counting problem. (3)* CO4: Solve puzzles based on counting principles. (5)* CO5: Provide basic knowledge about models of automata theory and the corresponding formal languages. (2)*	
<b>SEMESTER II</b>	
COURSE CODE:	COURSE TITLE: <b>WEB TECHNOLOGY</b>
VERTICAL/CATEGORY	VERTICAL 4/SEC
<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO1: Create structured HTML documents using HTML. (6)* CO2: Apply CSS for text and link styling. (3)* CO3: Implement responsive design with CSS. (6)* CO4: Demonstrate proficiency in creating visually appealing web pages. (6)* CO5: Grasp fundamental Internet concepts and applications. (2)* CO6: Implement JavaScript events and event handlers for interactive web pages. (3)* CO7: Apply jQuery effects to enhance user experience. (3)* CO8: Understand the basics of JSON and its data structures. (2)* CO9: Create, parse, and persist JSON data. (6)* CO10: Integrate JSON and HTML effectively in web development. (4)*	
<b>SEMESTER II</b>	
COURSE CODE:	COURSE TITLE: <b>INDIAN LANGUAGE</b>
VERTICAL/CATEGORY	VERTICAL 5/AEC
<b>Course Outcomes:</b> After successful completion of the course, students will be able to;	



- CO-1) विद्यार्थियों को लेखन, वाचन कौशल के ज्ञान प्राप्ति के साथ मौलिक अभिव्यक्ति में बदलाव आएगा। (2)\*  
 CO-2) विद्यार्थियों का लेखन, वाचन कौशल द्वारा मानसिक विकास होगा, पठन-शक्ति, शैली का विकास होगा। (4)\*  
 CO-3) विद्यार्थियों को लेखन, भाषण कौशल से भाविक-शक्ति, शैलियों का संवर्धन होगा विशेषज्ञता आएगी। (3)\*  
 CO-4) विद्यार्थियों को लेखन, वाचन, श्रवण, भाषण कौशल की विशेषताओं और उपयोगिता का ज्ञान प्राप्त होगा। (2)\*

**SEMESTER II**

COURSE CODE:	COURSE TITLE: <b>FUNDAMENTAL OF PEOPLE SKILLS</b>
VERTICAL/CATEGORY	VERTICAL 5/VEC

**Course Outcomes:** After successful completion of the course, students will be able to;

- CO1: Demonstrate ethical behavior coupled with integrity. (3)\*  
 CO 2: Will generate new ideas and create a business plan. (6)\*  
 CO 3: Will be able to develop good listening skills which are vital for demonstrating good team qualities. (2)\*  
 CO 4: Will build sensitivity about social and cultural differences and illustrate good etiquettes. (1)\*  
 CO 5: Will be able to present themselves and their thoughts in front of others more confidence. (6)\*

**SEMESTER II**

COURSE CODE:	COURSE TITLE: <b>NSS</b>
VERTICAL/CATEGORY	VERTICAL 6/CC

**Course Outcomes:** After successful completion of the course, students will be able to;

- CO1: To ensure equal access to quality education and educational opportunities to aspirants. (3)\*  
 CO2: To support the government initiatives in achieving universal foundational literacy and numeracy as per sustainable development program. (2)\*  
 CO3: To organize remedial programs to address the learning breaches among the youth and provide unending education opportunities. (5)\*  
 CO4: To offer more holistic, multidisciplinary, and flexible curricular activities with an emphasis on conceptual understanding and personality development. (5)\*  
 CO5: To offer a wide range of activities & promote critical thinking, creativity, and innovation. (4)\*  
 CO6: To provide aspirants with multiple pathways for skill development and employment. (5)\*  
 CO7: To implement outreach programs to disseminate knowledge, provide services, and support community development. (6)\*

**SEMESTER II**

COURSE CODE:	COURSE TITLE: <b>Cultural Activities</b>
VERTICAL/CATEGORY	VERTICAL 6/CC





<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO1: Identify and trace the historical evolution of Indian performing and fine arts. (2) CO2: Analyze the transition from traditional to modern art forms in performing arts. (4) CO3: Identify and describe a range of career paths in the fine and performing arts. (2)	
<b>SEMESTER II</b>	
COURSE CODE:	COURSE TITLE: EXTENSION WORK
VERTICAL/CATEGORY	VERTICAL 6/CC
<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO1: Build communication, teamwork, and event management skills. (6)* CO2: Address key societal issues through active participation. (4)* CO3: Enhance expression via scriptwriting, performances, and multimedia projects. (1)* CO4: Apply knowledge through seminars, surveys, and fieldwork. (3)* CO5: Explore career opportunities and develop confidence. (5)*	

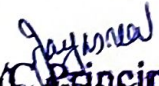
\* Note: Numbers given in the brackets () refer to learning levels of the revised Blooms' Taxonomy (2001) as follows:

(1): Remember (2): Understand, (3): Apply (4): Analyse (5): Evaluate (6): Create

  
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