



# 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: 1150261	NAME OF THE PROGRAMME: <b>BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)</b>
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### Programme Outcomes:

PO1: Demonstrate proficiency in programming languages, Data structures, Design and implement software solutions with their technical competence

PO2: Analyze user requirements and design effective IT systems or applications.

PO3: Apply system analysis and design methodologies to address complex business challenges.

PO4: Acquire the skills of Database Management, Networking and Security, Web Technologies

PO5: Plan, execute, monitor, and control IT projects.

PO6: Analyze and solve complex IT problems using critical thinking skills.

PO8: Apply concepts of artificial intelligence, machine learning, cloud computing, and IoT

PO9: Effectively communicate technical information both orally and in writing.





## COURSE OUTCOMES

SEMESTER I	
COURSE CODE: 1011111	COURSE TITLE: <i>Programming with C</i>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1. To understand the concepts of computer programming. (2)*</p> <p>CO2. To understand syntax and semantics of the C language (2)*</p> <p>CO3. To understand loops and decision making in programming. (3)*</p> <p>CO4. To understand the use of arrays, structures, union and pointers.(3)*</p> <p>CO5. To understand functions for modular code and handle errors. (4)*</p>	
SEMESTER I	
COURSE CODE: 1011112	COURSE TITLE: <i>Database Management System</i>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1. To make students aware fundamentals of database system.(2)*</p> <p>CO2. To give idea how ERD components helpful in database design and implementation. (3)*</p> <p>CO3. To experience the students working with database using MySQL. (5)*</p> <p>CO4. To familiarize the student with normalization, database protection and different DDL, DML, DQL, DCL Statements (2)*</p> <p>CO5. To make students aware about importance of protecting data from unauthorized users. (2)*</p>	
SEMESTER I	
COURSE CODE: 1011113	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. To provide exposure in developing algorithm, flowchart and to write efficient code. (6)*</p> <p>CO2. To understand loops and decision making in programming. (2)*</p> <p>CO3. To understand the arrays, structures, union. (2)*</p> <p>CO4. To understand the use of function and pointers. (3)*</p> <p>CO5. To Identify entities and its relationship with relational model structure. (4)*</p> <p>CO6. To understand relational database using SQL and constraints implementation using create table queries. (4)*</p> <p>CO7. To Understand DML operations and backing of database (2)*</p> <p>CO8. To understand how to retrieve data from database and learn how to retrieve single value after performing calculations on group of values (2)*</p> <p>CO9. To understand built-in functions to perform operations on data (4)*</p> <p>CO10. To understand how to fetch data from two or more tables, which is joined to appear as single set of data(2)*</p> <p>CO11. To understand nested and larger query as advanced fetching of data to understand concept of virtual table.(2)*</p> <p>CO12. To understand how to control user access in a database. (2)*</p>	
SEMESTER I	
COURSE CODE: 1171312	COURSE TITLE: <b>ENTREPRENEURSHIP 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: 1011411	COURSE TITLE: <b>Combinational and Sequential Design</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. To provide students with a comprehensive understanding of combinational and sequential circuit design principles and techniques. (2)*</p> <p>CO2. To enable students to apply Boolean algebra, K-map simplification, and other design techniques to create optimized digital circuits. (3)*</p> <p>CO3. To equip students with the necessary tools and skills to implement arithmetic circuits, data path circuits, and memory circuits. (2)*</p> <p>CO4. To enable students to analyze and troubleshoot digital circuits to ensure optimal performance. (4)*</p> <p>CO5. To provide students with hands-on practical experience in designing and implementing digital circuits using simulation software and real-world hardware. (5)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 1011412	COURSE TITLE: <b>Office Tools for Data Management</b>
VERTICAL/CATEGORY	VERTICAL 4/SEC
<p>CO 1. Participants will grasp essential database concepts, including tables, relationships, and normalization principles. (1)*</p> <p>CO 2. Participants will design and construct well-organized databases in MS Access, showcasing proficiency in table design and data validation. (6)*</p> <p>CO 3. Participants will master the creation of complex queries in MS Access, enabling them to extract specific information efficiently. (6)</p> <p>CO 4. Participants will develop expertise in crafting user-friendly forms and interfaces in MS Access, optimizing data entry processes. (6)*</p> <p>CO 5. Participants will generate comprehensive reports in MS Access, demonstrating skills in grouping, sorting, and presenting data for meaningful analysis. (5)*</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> <p>CO5: Display advanced formal writing skills in crafting job application letters, CVs, and Statements of Purpose. (6)*</p>	





<b>SEMESTER I</b>	
COURSE CODE: 2541511	COURSE TITLE: <b>INDIAN CONSTITUTION</b>
VERTICAL/CATEGORY	VERTICAL 5/VEC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to:</p> <p>CO1: Empowered to understand the basic structure, nature of Indian Constitution. (2)*</p> <p>CO2: Understand their and other citizens fundamental rights and duties towards the nation. (4)*</p> <p>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)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: <b>2531511</b>	COURSE TITLE: <b>INDIAN KNOWLEDGE SYSTEM SERIES (GENERIC – I)</b>
VERTICAL/CATEGORY	VERTICAL 5/IKS
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Understand and appreciate the foundations of Indian knowledge traditions and their relevance in modern management practices. (2)*</p> <p>CO2: Analyze and critically evaluate various Indian knowledge systems, including ancient economics, management strategies, and ethical frameworks. (4)*</p> <p>CO3: Apply modern tools and technology to present and disseminate traditional Indian knowledge effectively through digital and social platforms. (3)*</p> <p>CO4: Demonstrate sensitivity towards diverse cultural, social, and ethical values from India's knowledge traditions, promoting inclusivity and respect for all. (3)*</p> <p>CO5: Cultivate teamwork, leadership, and problem-solving skills by engaging with historical case studies of Indian governance, trade, and management. (4)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: <b>2521612</b>	COURSE TITLE: <b>NSS</b>
VERTICAL/CATEGORY	VERTICAL 6/CC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to:</p> <p>CO1: Comprehend the foundations of the National Service Program. (2)*</p> <p>CO2: To understand the unique camping program. (2)*</p> <p>CO3: Learn about the regular activities of NSS. (1)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: <b>2521611</b>	COURSE TITLE: <b>CA</b>
VERTICAL/CATEGORY	VERTICAL 6/CC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Understand the significance of cultural activities. (2)*</p> <p>CO2: Sensitize students towards Indian culture and its preservation. (1)*</p> <p>CO3: Apply the knowledge and skills of the cultural activities in their practical life. (3)*</p> <p>CO4: Participate in the various cultural activities. (6)*</p>	





<b>SEMESTER I</b>	
COURSE CODE: <b>2521615</b>	COURSE TITLE: <b>SPORTS</b>
VERTICAL/CATEGORY	VERTICAL 6/CC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to:</p> <p>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)*</p> <p>CO2: The curriculum would enable to officiate, supervise various sports events and organize sports events. (1)*</p> <p>CO3: Students acquire the knowledge of Physical Education, Sports and Yoga and understand the purpose and its development. (2)*</p> <p>CO4: The student learns to plan, organize and execute sports events. (2)*</p> <p>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)*</p> <p>CO6: Student acquires the knowledge of opted games, sports and yoga and also learns the technical and tactical experience of it. (3*)</p> <p>CO7: Student will learn to apply knowledge of Physical fitness and exercise management to lead better quality life. (3)*</p> <p>CO8: Students will understand and learn different dimension of active life style. (2)*</p> <p>CO9: Student will learn the knowledge of nutrition and diet. (1)*</p> <p>CO10: Students will be able to assess the physical fitness in a scientific way. (4*)</p> <p>CO11: The students will be able to continue professional courses and research in Physical Education, sports and yoga. (5)*</p> <p>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)*</p>	
<b>SEMESTER I</b>	
COURSE CODE: 2521616	COURSE TITLE: <b>EXTENSION WORK</b>
VERTICAL/CATEGORY	VERTICAL 6/CC
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Enhance communication, organization, and presentation skills for effective extension work. (2)*</p> <p>CO2: Gain understanding of key societal issues and foster community responsibility. (2)*</p> <p>CO3: Improve teamwork through group activities and community outreach. (5)*</p> <p>CO4: Nurture innovation through storytelling, performances, and creative projects. (4)*</p> <p>CO5: Apply knowledge in real-world scenarios via seminars, surveys, and field activities. (3)*</p>	





SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>Object Oriented Programming using C++</b>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO 1. To explain the difference between object oriented programming and procedural programming. (4)*</p> <p>CO 2. To understand OOP principles to create modular, reusable, and maintainable code. (2)*</p> <p>CO 3. To understand the concept of polymorphism ,virtual functions,inheritance and exception handling.(2)*</p> <p>CO 4. To understand file handling concepts using C++. (3)*</p>	
SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>Web Designing</b>
VERTICAL/CATEGORY	VERTICAL 1/MAJOR
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO 1. To understand the fundamentals of Internet, and the principles of web design (2)*</p> <p>CO 2. To develop basic websites using HTML and Style Sheets. (6)*</p> <p>CO 3. To understand different style sheets used in web designing. (4)*</p> <p>CO 4. To implement JavaScript as a tool to add dynamism to static HTML pages. (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>CO 1. To explain the important characteristics of the C++ programming language. (2)*</p> <p>CO 2. To combine components of the C++ programming language to develop structured program. (3)*</p> <p>CO 3. To demonstrate the skills essential to compile, debug, and test C++ programs correctly. (5)*</p> <p>CO 4. To understand how to effectively implement HTML. (2)*</p> <p>CO 5. To develop the concept of basic and advanced text formatting. (6)*</p> <p>CO 6. To understand Hyper linking, Designing of webpage. (2)*</p>	
SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>Number Theory and Basics of Matrices</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: understand the integer and rational number system and illustrate examples of polynomials in <math>F[x]</math>, where <math>F = \mathbb{Z}, \mathbb{Q}, \mathbb{R}, \mathbb{C}</math>. (2)*</p> <p>CO2: explain the properties of integers and matrices with suitable examples. (2)*</p> <p>CO3: verify the statements of theorems by applying them in problem-solving. (4)*</p> <p>CO4: analyze the problem and apply the theorems accordingly. (5)*</p> <p>CO5: generalize statements of theorems and interpret the proof. (5)*</p>	
SEMESTER II	
COURSE CODE:	COURSE TITLE: <b>HUMAN RESOURCE MANAGEMENT</b>
VERTICAL/CATEGORY	VERTICAL 3/OE
<p><b>Course Outcomes:</b> After successful completion of the course, students will be able to;</p> <p>CO1: Develop practical skills in various HRM functions, such as recruitment, selection (3)*</p> <p>CO2: Acquire proficiency in talent management strategies, including attracting, retaining, and developing talent. (5)*</p> <p>CO3: Learn strategies to enhance positive work environment conducive to high performance and organizational success. (2)*</p>	





SEMESTER II	
COURSE CODE:	COURSE TITLE: PRINCIPLES AND PRACTICES OF MANAGEMENT
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)*	
SEMESTER II	
COURSE CODE:	COURSE TITLE: PLSQL Practical
VERTICAL/CATEGORY	VERTICAL 4/VSC
<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO 1. Comprehend the basics of PL/SQL and gain knowledge about control and conditional statement in PL/SQL. (1)* CO 2. Understand working with cursors, collections and composite data types in PL/SQL. (2)* CO 3. Develop expertise in creating stored procedures and functions. (6)* CO 4. Explore the use of triggers to automate responses to events within the database. (3)* CO 5. Understand the concept of Exception handling. (2)* CO 6. Design modular applications using packages. (6)*	
SEMESTER II	
COURSE CODE:	COURSE TITLE: Assembly Language Programming
VERTICAL/CATEGORY	VERTICAL 4/SEC
<b>Course Outcomes:</b> After successful completion of the course, students will be able to; CO1. To gain a thorough understanding of the 8085 microprocessor architecture and its associated instruction set. (1)* CO2. To develop the ability to write and debug assembly language programs for the 8085 microprocessor. (6)* CO3. To learn the principles of computer organization and how they relate to the 8085 microprocessor. (2)* CO4. To become proficient in the use of 8085 assembly language programming tools, simulators, and debuggers. (3)* CO5. To learn how to interface different input/output devices with the 8085 microprocessor. (2)* CO6. To understand the concept of interrupts and how they are used in 8085 assembly language programming. (2)* <b>CO10:</b> Integrate JSON and HTML effectively in web development. (4)*	
SEMESTER II	
COURSE CODE:	COURSE TITLE: INDIAN LANGUAGE
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: **FUNDAMENTAL OF PEOPLE SKILLS**

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: **NSS**

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 &amp; 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: **Cultural Activities**

VERTICAL/CATEGORY

VERTICAL 6/CC

**Course Outcomes:** 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)





**SEMESTER II**

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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