



BACHELOR OF SCIENCE – DATA SCIENCE

COURSE OUTCOME

AS PER REVISED SYLLABUS NEP 2020

SEMESTER I

CO OF SEM I

VERTICAL: Major

COURSE NAME – Python Programming

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- CO 1. Learners will be able to use variables with different data types and input output functions.
 - CO 2. Learners will be able to use control statements and operators in programming.
 - CO 3. Learners will proficiency in using function and strings.
 - CO 4. Learners will be able to acquire knowledge of dictionaries of python.

CO OF SEM I

VERTICAL: Major

COURSE NAME – Descriptive Statistics

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- CO 1: Learners will be able to organize, manage and present the data.
 - CO 2: Learners will be able to understand the use Measures of Central Tendencies and Dispersion.
 - CO 3: Learners will be able to understand and compute the consistent and inconsistent data
 - CO 4: Learners will be able to understand forecasting techniques and to find cause and affect relationship between variable through regression analysis.

CO OF SEM I

VERTICAL: Major

COURSE NAME – Major Practical 1 (Python Programming and Descriptive Statistics)

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- CO 1: Learners will be able to use all data types in different ways.
 - CO 2: Learners will be able to acquire knowledge to implement user defined, built in and lambda functions.
 - CO 3: Learners will be able to make a use of arrays and strings in python programming.
 - CO 4: Learners will be able to study the relationship between variables using techniques of correlation and regression.





CO OF SEM I

VERTICAL: VSC (Vocational Skill Course)

COURSE NAME - Excel for Business

CO 1: Learners will be able to gain a foundational understanding of spread sheet structure and the components of financial models.

CO 2: Learners will be able to identify and choose the appropriate financial model for different business scenarios and appropriate software tools for financial modelling tasks.

CO 3: Learners will be able to understand the anatomy of a financial model workbook and plan projects efficiently.

CO 4: Learners will be able to design models with clear layouts and utilize flowcharts for improved model visualization & will gain expertise in formatting, using form controls, creating PivotTables, and employing various tools for effective financial modelling

CO OF SEM I

VERTICAL: SEC (Skill Enhancement Course)

COURSE NAME – Office Tools for Data Scientists

CO 1: Learners will be able to confidently navigate and utilize data tools with ease.

CO 2: Learners will be able to acquire proficiency in importing data across various platforms.

CO 3: Learners will be able to be proficient in generating descriptive statistics using diverse tools.

CO 4: Learners will be able to confidently apply correlation tests, Regression, Confidence Intervals, Random Sampling in Excel, Open Office, RStudio/Rattle, and KNIME.

CO 5: Learners will be able to master power analysis techniques, F-Test, Regression/Correlation analysis in various statistical tools.

CO 6: Learners will be able to effectively use additional data packages and the Analysis ToolPak for diverse analysis needs





SHREE L. R. TIWARI DEGREE COLLEGE

(Arts | Commerce | Science)

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Affiliated to University of Mumbai | College Code - 1064 | ISO Certified 9001:2015 | Hindi Linguistic Minority institution

CO OF SEM I

VERTICAL: OE (Open Electives)

COURSE NAME – Open Source Technologies

CO 1. Learners will be able to understand the principles and significance of open-source software, along with its practical applications.

CO 2. Learners will be able to proficiently use a variety of open-source tools such as Libre Office, GIMP, Shotcut, and Blender for word processing, photo editing, video editing, and 3D modeling respectively

CO 3. Learners will be able to effectively collaborate on software projects using version control systems like GitHub, and contribute to open-source projects.

CO 4. Learners will be able to apply their knowledge of open-source technologies to solve real-world problems in various domains including business and education.

CO OF SEM I

VERTICAL: OE (Open Electives)

COURSE NAME – Web Designing

CO 1. Learners will be able to demonstrate proficiency in HTML, CSS, JavaScript, and PHP to create interactive, well-structured, and visually appealing web pages.

CO 2. Learners will be able to apply fundamental web design principles to build user-friendly and aesthetically pleasing websites.

CO 3. Learners will be able to troubleshoot and debug web development issues, solving problems effectively.

CO 4. Learners will be able to develop basic web applications and collaborate effectively in team-based web development projects.





CO OF SEM I

VERTICAL: AEC (Ability Enhancement Course)

COURSE NAME – Introduction to Communication Skills - I

- CO 1. Learners will be able to demonstrate an understanding of essential aspects of communication skills
 - CO 2. Learners will be able to Exhibit the ability to read a variety of written text using sub-skills such as skimming and scanning.
 - CO 3. Learners will be able to Identify and rectify common grammatical errors in English.
 - CO 4. Learners will be able to Show competence in delivering compelling presentations and engage in articulate and effective conversations in English across different contexts.
 - CO 5. Learners will be able to Display advanced formal writing skills in crafting job application letters, CVs, and Statements of Purpose.
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CO OF SEM I

VERTICAL: VEC (Value Education Courses)

COURSE NAME – Intellectual Property Rights

- CO 1. Learners will be able to study development and reform of intellectual property right institutions and their impact on creativity and innovation.
 - CO 2. Learners will be able to critically analyse the principles of Tortious liability, develop familiarization of process of Intellectual Property Management (IPM) and various approaches for IPM and conducting IP and IPM auditing.
 - CO 3. Learners will be able to explain how IP can be managed as a strategic resource and suggest IPM strategy.
 - CO 4. Learners will be well equipped with the expensive characteristics of judicial trend related to IPR and the remedies provided under the mechanism set up by the Government Convention of IPR
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CO OF SEM I

VERTICAL: IKS

COURSE NAME – Indian Knowledge System

CO 1. Learners will be able to understand and appreciate the rich Indian Knowledge Tradition

CO 2. Learners will be able to understand the contribution of Indians in various fields

CO 3. Learners will be able to experience increase subject-awareness and self-esteem

CO 4. Lerner will develop a comprehensive understanding of how all knowledge is ultimately intertwined

CO OF SEM I

VERTICAL: Co-curricular activities

COURSE NAME – National Service Scheme (N.S.S.)

CO 1: Learners will be able to comprehend the foundations and objectives of the National Service Scheme (NSS).

CO 2: Learners will be able to understand the structure and purpose of the NSS camping program.

CO 3: Learners will be able to explain the regular activities conducted under the NSS.

CO OF SEM I

VERTICAL: Co-curricular activities

COURSE NAME – Department of Lifelong Learning and Extension (D.L.L.E.)

CO 1. Learners will be able to understand the principles of community engagement and extension work and apply them to real-world scenarios to address societal challenges.

CO 2. Learners will be able to develop practical skills in organizing and participating in various outreach activities such as seminars, workshops, and training sessions, fostering social responsibility and civic engagement.

CO 3. Learners will be able to enhance their critical thinking and creativity by participating in multidisciplinary activities, promoting sustainable development, and addressing social issues like literacy, health, and environmental conservation.

CO 4. Learners will be able to contribute to inclusive and equitable education by engaging in activities that promote awareness of issues related to gender, environment, and social justice.



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CO 5. Learners will be able to foster leadership and teamwork skills through participation in community-oriented projects and extension activities, enhancing their ability to work collaboratively towards common goals.

CO 6. Learners will be able to improve their employability by gaining vocational skills, understanding the basics of entrepreneurship, and developing competencies in project management and event organization within community settings.

CO OF SEM I

VERTICAL: Co-curricular activities

COURSE NAME – Introduction to Cultural Activities

CO 1. Learners will be able to understand the significance of cultural activities.

CO 2. Learners will be able to sensitize towards Indian culture and its preservation.

CO 3. Learners will be able to apply the knowledge and skills gained from cultural activities in practical life.

CO 4. Learners will be able to actively participate in various cultural activities.

CO OF SEM I

VERTICAL: Co-curricular activities

COURSE NAME –Introduction to Sports, Physical Literacy, Health and Fitness and Yoga

CO 1. Learners will be able to Establish and manage fitness centres, gyms, or yoga studios, and create tailored fitness programs for diverse age groups and genders.

CO 2. Learners will be able to Organize, officiate, and supervise sports events, utilizing skills in sports management and event planning.

CO 3. Learners will be able to acquire comprehensive knowledge of Physical Education, Sports, and Yoga, including their theoretical foundations, practical applications, and developmental aspects.

CO 4. Learners will be able to develop expertise in a chosen sport, mastering technical and tactical skills for effective teaching, coaching, and learning.

CO 5. Learners will be able to apply principles of physical fitness, exercise management, nutrition, and active lifestyle practices to improve quality of life.

CO 6. Learners will be able to pursue advanced studies and research in Physical Education, Sports, and Yoga, and understand the key components of physical literacy, such as motivation, inclusive teaching methods, and progress assessment.

