



# St. Paul Institute of Professional Studies, Indore

An Autonomous Institute Affiliated to Devi Ahilya Vishwavidyalaya, Indore

Accredited by NAAC with 'A' Grade

Phone No. 0731-2499911, 49661355, 4961356

E-mail: [info@spipsindore.ac.in](mailto:info@spipsindore.ac.in), Website: [www.spipsindore.com](http://www.spipsindore.com)



## Part A: Introduction

|                                      |  |                        |                           |
|--------------------------------------|--|------------------------|---------------------------|
| <b>Programme: Certificate Course</b> |  | <b>Class: I Year</b>   | <b>Session: 2024-2025</b> |
| Course Code:                         | EL-101T  |                        |                           |
| Course Title:                        | Basics of Business Studies   |                        |                           |
| Course Type:                         | Elective   |                        |                           |
| Pre-requisite:                       | Not required (open for all)  |                        |                           |
| Course Learning Outcomes             | <ol style="list-style-type: none"> <li>1. The successful completion of this course shall enable the student:</li> <li>2. The Course will be helpful to provide basic knowledge of business.</li> <li>3. Students will be capable to understand Business ethics to guide corporate sector and feel and perform its responsibility towards society.</li> <li>4. Students will be capable to understand ethical aspect of business, banking system, banking procedure.</li> <li>5. Students will be capable to understand practical banking, insurance system, insurance procedure, stock exchange system.</li> <li>6. To help them for employment in related field.</li> <li>7. To gain a comprehensive understanding of fundamental business principles and practices, enabling effective decision-making and management in a global business environment.</li> </ol> |                        |                           |
| Credit Value                         | 4+ 2   |                        |                           |
| Total Marks                          | Max.Marks 30+70  | Min. Passing Marks: 35 |                           |

## Part B: Content of the course

| Total No. of Lectures (in hours per week)- 6 |   | Total Lectures:60 Theory+ 30 Practical hours |
|--|---|--|
| Unit   | Topic   | No. of lectures (Theory+ Practical)          |
| 1  | <p>Concept of Business: Historical background of business in India. Meaning and objectives of business. Industry, trade and commerce. Business Sectors; Goods and services sectors.</p> <p>Concept and salient features of sole trade, partnership, LLP and co-operative society. Meaning, features and types of Joint stock company.</p> <p>Online Business: Need, importance limitations, process, dangers and precautions.</p>     | 12+6   |
| 2  | <p>Business Ethics: Historical background of business ethics in India. Concept and significance of business ethics. Balancing between objectives of business and ethics of business. Evaluation of business ethics in India. Corporate Social Responsibility (CSR): Historical background of CSR, concept, objectives, need and importance of CSR. Contribution of Indian corporate sector under CSR. Evaluation of CSR in India.</p> | 12+6   |

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|  |   |      |
|--|---|------|
| 3  | <p>Banking: Historical background, classification of bank. Meaning, definition and functions of commercial bank. Role of banks in economic growth. Features of Indian banking system.</p> <p>Bank Deposits: Meaning and types. Features of bank accounts. Procedure to open and close bank accounts (Including online procedure).</p> <p>Loans and Advances: Principles to sanction loans and advances. Classification of loans and advances. Procedure to apply for house loan, personal loan, education loan and commercial loan.</p> | 12+6 |
| 4  | <p>Insurance: Origin and development of insurance. Meaning, principles and importance of insurance. Classification of insurance.</p> <p>Life Insurance: Meaning, objectives, principles and importance. Types of life insurance policy. Claim procedure and settlement.</p> <p>General Insurance: Meaning, objectives and importance. General Insurance Policies: Vehicle, health, household goods, commercial premises and goods and another available policy.</p>   | 12+6 |
| 5  | <p>Stock Exchange: Historical background. Meaning, functions and importance. Important terminology related to stock exchange. Primary and secondary market. Procedure of dealing in primary and secondary market. NSE, BSE. Various index and interpretation of fluctuations in it.</p> <p>Mutual Funds: Concept, salient features, importance and types. Systematic Investment Plan (SIP). Performance of mutual funds in India.</p>   | 12+6 |
| Key word: - Business, Ethics, General Insurance, Stock Exchange, Corporate Social Responsibility |   |      |

## Part C learning Resources

### Text books:

1. Dr C.B. Gupta Values & Ethics in Business Sultan Chand & sons New Delhi
2. Dr C.B. Gupta Business Organization & Management Sultan Chand & sons New Delhi
3. Rathi & Agrawal Investment Management & Security Analysis S. Chand & sons New Delhi
4. Dr S.C. Saxena & Dr. V.P. Agrawal Business Organization & Communication Sahitya Bhawan Pub. Agra.
5. Dr. O.P. Gupta & Dr. Sudhir Kumar Sharma Banking & Insurance Sahitya Bhawan Pub. Agra
6. Dr. R. L. Nolkhha Principles of Insurance R.B.D. Publication Jaipur

Madhavi  
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Gabi  
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### Suggestive digital platforms, web links:

- 1 [http://cbseacademic.nic.in/web\\_material/CurriculumMain20/SrSecondary/BusinessStudies.pdf2](http://cbseacademic.nic.in/web_material/CurriculumMain20/SrSecondary/BusinessStudies.pdf2)  
<https://ncertnic.in/textbook.php?kebs1=0-11>
- 3 [http://www.opentextbooks.org.hk/system/files/export/6/6841/pdf/Business\\_Fundamentals\\_6841.pdf](http://www.opentextbooks.org.hk/system/files/export/6/6841/pdf/Business_Fundamentals_6841.pdf)
- 4 [https://vtechworks.lib.vt.edu/bitstream/handle/10919/70961/Fundamentals%20of%20Business%20%](https://vtechworks.lib.vt.edu/bitstream/handle/10919/70961/Fundamentals%20of%20Business%20%20)

| Part D- Assessment and Evaluation  |   |                          |
|--|---|--------------------------|
| Suggested Continuous Evaluation Methods:<br>Maximum Marks: 100<br>Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks |   |                          |
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30  | Class Test<br>Assignment/Presentation<br>E-quiz | 30                       |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours   | <b>Section(A) : Six Very Short Questions</b>    | 06 x 01 = 06             |
|  | <b>Section (B) : Five Short Questions</b>       | 05 x 08 = 40             |
|  | <b>Section (C) : Two Long Questions</b>         | 02 x 12 = 24<br>Total 70 |

| Part D- Practical Assessment and Evaluation  |           |  |           |
|--|-----------|--|-----------|
| Suggested Continuous Evaluation methods:   |           |  |           |
| Internal Assessment  | Marks     | External Assessment                          | Marks     |
| Class Interactions/Quiz  | 10        | Viva Vice on Practical                       | 10        |
| Attendance   | 5         | Practical Record file                        | 10        |
| Assignment (Charts /<br>Modal/seminar/ Rural<br>services/Technology<br>Dissemination/report of<br>excursion/Lab<br>visits/survey/Industrial visits | 15        | Table/Ground<br>work/Experiments/Practical's | 50        |
| <b>Total</b>   | <b>30</b> | <b>Total</b>                                 | <b>70</b> |

*Madhavi* 10/6/24  
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BA I Year: Generic English (Theory + Tutorial)

| Part A Introduction         |   |  |  |                       |  |
|-----------------------------|---|--|--|-----------------------|--|
| Program: Certificate Course |   | Class: I Year  |  | Session: 2024- 2025   |  |
| Subject: Generic English    |   |  |  |                       |  |
| 1                           | Course Code   | EL-102T  |  |                       |  |
| 2                           | Course Title  | Communicative English  |  |                       |  |
| 3                           | Course Type (Core Course/Elective/Generic) Elective/Vocational/.) | Elective   |  |                       |  |
| 4                           | Pre-requisite (if any)  | This course can be opted as an elective by the students of following subjects: Class 12 <sup>th</sup> passed in any discipline /Open for all   |  |                       |  |
| 5                           | Course Learning Outcome (CLO)                                     | The study of this course will enable the students to acquire the knowledge of <ul style="list-style-type: none"><li>• Phonology and Morphology.</li><li>• Syntax and Structure, and</li><li>• Vocabulary and Discourse.</li></ul> The students will be able to converse in real-life situations with effective language skills. The course will also help them <ul style="list-style-type: none"><li>• Acquire literary sense,</li><li>• Use idiomatic and lexical language. and</li><li>• Communicate effectively across the globe.</li></ul> |  |                       |  |
| 6                           | Credit Value  | Theory 4 Credits   |  | Practical 2 Credits   |  |
| 7                           | Total Marks   | Max. Marks: 30+70  |  | Min. Passing Marks 35 |  |

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P. Bhosale

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Radan  
05/10/24

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Srinivas

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*[Signature]*  
Shalini  
5/8/24

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Ashwini



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**Part B- Content of the Course**

**Total No. of Lectures- 60 Theory + 30 Practical**

| Unit | Topics  | No. of Lectures | No of Practical |
|------|---|-----------------|-----------------|
| I    | <p><b>Communication</b></p> <p>1.1 What is communication, its meaning, types and its purpose in the age of Globalization.<br/>           1.2 Communicative needs and problems<br/>           1.3 Expansion of an idea<br/>           1.4 Rules of use of language, use of appropriate words</p> <p><b>Keywords/Tags:</b><br/>           Linguistic and communicative competence, Communication. affective and cognitive strategies, ESL. EFL. Acquisition of LI, L2 and Collocational language.</p>         | 12              | 6               |
| II   | <p><b>Practicing Listening skill, Reading and Understanding Skills</b></p> <p>2.1 Listening to Radio and TV news, discussion and comprehension of rules of grammar;<br/>           2.2 Parts of Speech. Pronunciation and intonation. Melodic parts of an Utterance variation of pitch.<br/>           2.2 Reading newspapers, analysis and interpretation<br/>           2.3 IPA and phonetic symbols<br/>           2.4 Precis writing and paraphrasing<br/>           2.5 Vocabulary enrichment</p>      | 12              | 6               |
| III  | <p><b>Practicing Writing Skills</b></p> <p>3.1 Formal and informal writing of letter and invitation, meeting minutes, official orders and appointments. creative writing, listening to talks and presentation, note-making tips.<br/>           3.2 Communicative approach, lexical approach, task based learning<br/>           3.3 Report writing, Story writing, Daily routine in English</p> <p><b>Keywords/Tags:</b> Productive skills. Code mixing, Situational conversation, Structural English.</p> | 12              | 6               |

Gadav

Shobini  
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|    |   |    |   |
|----|---|----|---|
| IV | <b>Practicing Speaking Skills</b><br>4.1 Situational conversation between two friends on different topics<br>4.2 Group and Peer Discussions, Role play<br><b>Keywords/Tags:</b> Situational conversation. Frequent use of proverbs, phrases and idioms, Types of Role-Play Conversational English.                              | 12 | 6 |
| V  | <b>Application of Communicative English</b><br>5.1 Translation (from Hindi to English and vice-versa)<br>5.2 Contrastive analysis between L1 and L2: At structural, phonological and lexical levels with examples<br><b>Keywords/Tags:</b><br><i>Literary translation, Translation theories. L1 Interference. Bilingualism,</i> | 12 | 6 |

**Part C- Learning Resources**  
**Text Books, References, Books, and Other Resources**

"A Communicative Grammar of English". Leech Geoffrey, and Jan Svartik, Routledge, 2003 Third Edition.  
 "CTL for ESL Teachers & Learners". Gautam, GS, Classical Publishing Co., New Delhi, India 2012 1<sup>st</sup> ed.  
 "Communicative English for Globalization". Gautam GS. Classical Publishing Co., New Delhi, India 2013. Is ted.  
 "Communicative English Language Skills". Sumague, Julieta Arjona. Society Publishing, 2020.  
 "Communicative Methodology in Language Teaching". Brumfit, C. Cambridge University Press. 1984.  
 "Language Teaching: A Scientific Approach". Lado Robert. McGraw-Hill, New York. 1964.  
 "Motivation- The Teacher's Responsibility." Allwright, Dick. ELT Journal 31/4. 1977  
 "Problem and Principles in Language Teaching". Brumfit, C. Pergamon Institute of English, 1980.  
 "The Learner-Centred Curriculum". Nunan, D. Cambridge University Press. 1988.

**Suggested Digital Platform web links:**

Copyright skillsyouneed.com 2011-2021. "What Is Communication? Verbal, Non-Verbal & Written Skillsyouneed." [www.skillsyouneed.com/ips/what-is-communication.html](http://www.skillsyouneed.com/ips/what-is-communication.html)  
 Ekeeda. "Written Communication- Introduction to Communication Skills" YouTube, uploaded by Ekeeda, 6 Nov. 2018. [www.youtube.com/watch?v=BHgQ03UuQvE](http://www.youtube.com/watch?v=BHgQ03UuQvE)  
 Msengeti, David. "Communication Notes." SlideShare, 2016, [www.slideshare.net/mwakidimi/communication-notes-69103614](http://www.slideshare.net/mwakidimi/communication-notes-69103614).

**Suggested equivalent online courses:**

<http://www.coursera.org/specializations/improve-english> Improve your English Communication Skills  
 Specialization by Gerry Landers, Amalia B. Stephens, Karen Peterson, Georgia Tech Language Institute.

*Qadar*  
*Shelini 10/16/24*  
*R. Chavre 10/16/24*  
*AD*  
*R. B...*  
*10/16/24*  
*10/16/24*



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**Part D- Theory Assessment and Evaluation**

|  |   |                          |
|--|---|--------------------------|
| Suggested Continuous Evaluation Methods:<br>Maximum Marks: 100<br>Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks |   |                          |
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30  | Class Test<br>Assignment/Presentation<br>E-quiz | 30                       |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours   | <b>Section(A) : Six Very Short Questions</b>    | 06 x 01 = 06             |
|  | <b>Section (B) : Five Short Questions</b>       | 05 x 08 = 40             |
|  | <b>Section (C) : Two Long Questions</b>         | 02 x 12 = 24<br>Total 70 |

**Part D- Practical Assessment and Evaluation**

|  |              |  |              |
|--|--------------|--|--------------|
| Suggested Continuous Evaluation methods:   |              |  |              |
| <b>Internal Assessment</b>   | <b>Marks</b> | <b>External Assessment</b>                   | <b>Marks</b> |
| Class Interactions/Quiz  | 10           | Viva Vice on Practical                       | 10           |
| Attendance   | 5            | Practical Record file                        | 10           |
| Assignment (Charts /<br>Modal/seminar/ Rural<br>services/Technology<br>Dissemination/report of<br>excursion/Lab<br>visits/survey/Industrial visits | 15           | Table/Ground<br>work/Experiments/Practical's | 50           |
| <b>Total</b>   | <b>30</b>    | <b>Total</b>                                 | <b>70</b>    |

*Gadar*

*Shalini*  
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*Rehane*  
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*P. Basma*  
10/6/24

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*Y. N. J.*  
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## Part A-Introduction

|                             |                          |  |                       |
|-----------------------------|--------------------------|--|-----------------------|
| Programme: Certificate      |                          | Class: 1 Year  | Session 2024-2025     |
| Subject: Physical Education |                          |  |                       |
| 1                           | Course Code              | EL-106T  |                       |
| 2                           | Course Title             | Introduction and Concept of Physical Education   |                       |
| 3                           | Course Type              | Elective   |                       |
| 4                           | Pre-requisite            | This course can be opted as an elective subject by the students of any core and it is open for all.  |                       |
| 5                           | Course Learning Outcomes | <ul style="list-style-type: none"> <li>On completion in of this course, learners will be able to:</li> <li>Know the Physical Education and Sports better and May excel in this area in their personal, social and professional life.</li> <li>The students will learn about the role of Physical Activity and Sports for. Fitness, Health and Wellness and may adopt in their lifestyle and society.</li> <li>They will understand the Structure of Physical Education in India and International level specially about the role of United Nations International Children's Emergency Fund (Unicef) concept "Sports for all."</li> <li>Students will be able to. identify the health related and skill related components of fitness, and will able to know the benefits of warming and cooling down and develop their concept regarding nutrition and balance diet.</li> <li>This course will help the students. to develop an awareness regarding the sports related events, persons and other related areas that will help them in competitive exams like Public Service Commission (PSC) exams.</li> </ul> |                       |
| 6                           | Credit Value             | 4 Theory + 2 Practical   |                       |
| 7                           | Total Marks              | Max. Marks: 30+70.   | Min. Passing Marks:35 |

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## Part B: Content of the course

| No. of Lectures (in hrs. per week): 4 Lecture per week |   | Lectures - 60 Hours |
|--|---|---------------------|
| Unit   | Topic   | No. of lectures     |
| I  | <b>Introduction to Physical Education</b> <ul style="list-style-type: none"> <li>• Meaning of Education and Physical Education</li> <li>• Concept of Physical Education and Sports in Ancient India,</li> <li>• Contribution of Physical Education towards Total Education,</li> <li>• Aims and Objectives of Physical Education and Sports</li> <li>• Need and Importance of Physical Education and Sports</li> <li>• Changing Concept of Physical Education in Future Prospect</li> <li>• Career Opportunity in Physical Education and Sports</li> </ul>  | 12                  |
| II   | <b>Contribution of Physical Education and Sports in fitness, health and wellness</b> <ul style="list-style-type: none"> <li>• Concept of Fitness, Health and Wellness</li> <li>• Basic Concept of the Major Organs of the Body (Heart, Lungs, Muscles and Bones<br/>Effect of Physical Activity and Sports on General Physiological Health (Heart, Lungs, and Muscles),</li> <li>• Contribution of Physical Activity and Sports on Psychological aspect of Health (Stress, Anxiety and Motivation),</li> <li>• Contribution of Physical Activity and Sports on Sociological Aspect of Human Behaviour (Socialization in Society)</li> </ul> | 12                  |
| III  | <b>Physical Education in India and role of UNICEF in development of sports</b> <ul style="list-style-type: none"> <li>• Introduction and Contribution of Physical Education Institutions: Young Men's Christian Association (YMCA) College of physical Education, Lakshimbai National Institute of Physical Education (LNIPE), Sports Authority of India (SAI), Netaji Subhash National Institute of Sports (NSNIS).</li> <li>• UNICEF Concept of "Children Rights in Sports Principles."</li> <li>• UNICEF Concept of "Child Focused Sports for Development"</li> <li>• UNICEF Concept of "Recreation Kit in a Carton"</li> </ul>          | 12                  |

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Shalini  
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|    |   |    |
|----|---|----|
| IV | <b>Health and Skill related Fitness, Warming Up, Cooling down, Nutrition and Balance Diet</b> <ul style="list-style-type: none"> <li>• Health Related Fitness - Components and Importance,</li> <li>• Skill Related Fitness - Components and Importance,</li> <li>• Warming Up Meaning, Types and Importance,</li> <li>• Cooling Down Meaning and Importance</li> <li>• Concept of Nutrition Nutrients and Balance Diet</li> </ul>  | 12 |
| V  | <b>Sports General Awareness (Self Learning Mode)</b> <ul style="list-style-type: none"> <li>• National and State level Sports awards (Dhyan Chand Khel Ratn Award, Arjun Award, Dronacharya Award, Vikram Award, Eklavya Award and Vishwamitra Award)</li> <li>• International Sports Personalities (International Renowned athletes and Indian Athletes at International Level),</li> <li>• Sports structure of Madhya Pradesh Higher Education Dept.,</li> <li>• Concept of indigenous Sports of India: Kabaddi, Kho-Kho, Malkhamb</li> </ul> | 12 |

**Keywords/Tags:**  
 Physical Education, Physical- Fitness, Health and Wellness, Physiological Health, Heart, Lungs, Muscles, Stress Anxiety, Motivation, Socialization and Sports, YMCA, LNIPE, SAI, NSNIS, NIS, Unicef Children Rights in Sports Principles, Unicef Child Focused Sports for Development, Unicef Sports in a Box, Health Related Fitness: Skill Related Fitness, Warming Up, Cooling Down, Limbering Down, Nutrition, Proximate Principles of Food, Nutrients, Balance Diet, National Sports Awards, Madhya Pradesh Sports Awards, Sports Personalities, Indoor Sports, Indoor Games, Outdoor Sports, Outdoor Games

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*Rshuwa*  
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*G. S. S.*  
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*Shalini*  
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## Part C-Learning Resources

Text Books, Reference Books, Other Resources

1. Singhm Ajmer, Gill Jagtar Singh, Baish Jagdeesh, Barar Rashpal Singh, "Essentials of Physical Education" New Delhi, Kalyani Publisher.
2. Barrow, H M "man and Movement: Principles and Physical Education" PHI Learning.
3. Bucher, CA, "Foundation of Physical Education", New Delhi
4. Deshpande, S H "Physical Education in Ancient India", Amaravati, Degree College of Physical Education,
5. Kamlesh, M L, Foundation of Physical Education, New Delhi, Sports Pub. 2013.

## Part D- Assessment and Evaluation

| Part D- Assessment and Evaluation  |   |                          |
|--|---|--------------------------|
| Suggested Continuous Evaluation Methods:<br>Maximum Marks: 100<br>Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks |   |                          |
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30  | Class Test<br>Assignment/Presentation<br>E-quiz | 30                       |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours   | <b>Section (A) : Six Very Short Questions</b>   | 06 x 01 = 06             |
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|  | <b>Section (C) : Two Long Questions</b>         | 02 x 12 = 24<br>Total 70 |

*Qadav*

*Shalini*  
10/6/24

*P. Shrivastava*  
10/6/24

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*Alsh*  
10/6/24

*R. B. Bhojwade*

*G. S. G.*  
10/6/24



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An Autonomous Institute Affiliated to Devi Ahilya Vishwavidyalaya, Indore  
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Phone No. 0731-2499911, 49661355, 4961356

E-mail: info@spipsindore.ac.in, Website: [www.spipsindore.com](http://www.spipsindore.com)



## Syllabus of Practical Paper

| Part A- Introduction        |   |   |
|-----------------------------|---|---|
| Program: Certificate Course |   | Year: I Year  |
|                             |   | Session: 2024-25  |
| Subject: Physical Education |   |   |
| 1                           | Course Code   | EL-106P   |
| 2                           | Course Title  | Introduction and Concept of Physical Education  |
| 3                           | Course Type (Core Course<br>Elective /Generic<br>Elective/Vocational/ ..... ) | Elective  |
| 4                           | Pre-requisite (if any)  | This course can be opted as an elective subject by the students of any core and it is open for all.   |
| 5                           | Course Learning outcomes (CLO)  | On completion of this course, learners will be able to:<br>Students will able to demonstrate the exercises for Developing fitness, warm up and cool down and able to explain the importance of warming up and cooling down for workout.<br>Students will able to conduct The American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) fitness test for others and will able to guide for fitness exercise.<br>Students will be able to measure Heart / Pulse Rate, Blood Pressure, Body Mass Index (BMI) and Body Fat Percentage and this will be useful at individual and community for assessment purpose.<br>They will learn to conduct recreational activities for community or can organize play day activity in their institution.<br>They will learn two games / sports that will help them to continue in their life and keep themselves fit, and they will learn knowledge of major games. |
| 6                           | Credit Value  | 2   |
| 7                           | Total Marks   | Max. Marks: 30+70<br>Min. Passing Marks:35  |

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## Suggestive digital platforms web links

- <https://www.healthline.com/health/how-to-check-heart-rate#target-heart-rates>
- <https://www.mvssportsfitness.com/2020/05/aahperd-fitness-test.html?m=1>
- <http://www.playday.org.uk/about-playdaviwhats-Playdavi>
- [https://www.nhlbi.nih.gov/health/educational/lose\\_wt/BMI/bmicalc.htm](https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm)
- <https://www.wikihow.com/Measure-Body-Fat-Using-the-US-Naw-Method>

### Part D-Assessment and Evaluation

Suggested Continuous Evaluation methods:

| Internal Assessment  | Marks     | External Assessment                          | Marks     |
|--|-----------|--|-----------|
| Class Interactions/Quiz  | 10        | Viva Vice on Practical                       | 10        |
| Attendance   | 5         | Practical Record file                        | 10        |
| Assignment (Charts /<br>Modal/seminar/ Rural<br>services/Technology<br>Dissemination/report of<br>excursion/Lab<br>visits/survey/Industrial visits | 15        | Table/Ground<br>work/Experiments/Practical's | 50        |
| <b>Total</b>   | <b>30</b> | <b>Total</b>                                 | <b>70</b> |

*Gadav*

*Shelini*  
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*P. Chavhan*  
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## Part A - Introduction

|                                      |                          |   |                          |
|--------------------------------------|--------------------------|---|--------------------------|
| <b>Programme: Certificate Course</b> |                          | <b>Class: B.Com. I Year</b>   | <b>Session 2024-25</b>   |
| <b>Subject: Commerce</b>             |                          |   |                          |
| 1                                    | Course Code              | EL-109  |                          |
| 2                                    | Course Title             | Business Economics  |                          |
| 3                                    | Course Type              | Elective  |                          |
| 4                                    | Pre-requisite            | Not required open for all   |                          |
| 5                                    | Course Learning Outcomes | Upon successful completion of the course a student will be able to<br><ol style="list-style-type: none"><li>1. Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of a good produced.</li><li>2. Understand the links between household behavior and the economic models of demand.</li><li>3. Represent demand, in graphical form, including the downward slope of the demand curve and what shifts the demand curve.</li><li>4. Understand the links between production costs and the economic models of supply.</li><li>5. Understand the concept of Pricing</li><li>6. Analyze operations of markets under varying competitive conditions</li></ol> |                          |
| 6                                    | Credit Value             | 6   |                          |
| 7                                    | Total Marks              | Max marks :30+70  | Minimum Passing Marks 35 |

*Handwritten signatures and initials:*  
Gabe, Jura, Sachin, MR, Madhosi, Myller, Deshpande



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## Part B: Content of the course

| Total No. of Lectures (in hours per week)- 6, Total Lectures: 90 |  |                 |
|--|--|-----------------|
| Unit   | Topic  | No. of Lectures |
|  | Historical background of economics in India with special reference to Kautilya, Definition of Economics, Concept of Micro and Macro Economics, Method of Economic study, Economics Law and their nature, Significance of Economics, Basic problems of Economics  | 18              |
| 2  | Elasticity of Demand, Concept and measurement of Elasticity of Demand, Price, Income and cross elasticity, Average Revenue, Marginal Revenue and Elasticity of Demand, Determination of Elasticity of Demand, Importance of Elasticity of Demand,  | 18              |
| 3  | Factors of Production- Land, Labour, Division of labour, Efficiency of Labour, Capital, Organisation and Enterprises, The scale of production, Production function and Law of returns, Return of scale, Equal product curve analysis, Theories of Population.  | 18              |
| 4  | Market and their classification, Theory of cost and concept of revenue. Price determination under perfect competition and Equilibrium of the firm, Monopoly-price and output determination and monopoly control, Price determination under monopoly, Imperfect and monopolistic competition-price determination. | 18              |
| 5  | Rent- concept, Ricardian and modern theories of Rent, Quasi Rent, Wages- concept, nominal and real wages, theories of wage determination; Profit-Nature, concept and Theories of profit.   | 18              |

Keywords/Tags: micro economics, macroeconomics, Production, perfect competition, Rent

*Bachin*

*DR*

*W*

*MS*

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*Deshae*

*Sum*  
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## Part C - Learning Resources

|   |   |                                    |
|---|---|------------------------------------|
| 1 | Kennedy John Fundamentals of Business Economics | Himalaya Pub.Nagpur                |
| 2 | Singh Dr.S.K. Business Economics                | Sahitya Bhawan<br>Publication Agra |
| 3 | Bhatiya H.L. Micro Economics                    | Modern Publisher New<br>Delhi      |
| 4 | Sinha Dr. V.C. & Dr. Pushpa Business Economics  | SBPD Publication Agra              |

### Suggestive digital platforms, web links:

1. [https://www.icsi.edu/media/website/Business%20Economics%20\(FndProg\).pdf](https://www.icsi.edu/media/website/Business%20Economics%20(FndProg).pdf)

2. <http://www.ddegjustacini.studymateriallibbaibba-103.pdf>

3. <https://old.mu.ac.in/wp-content/uploads/2020/01/FYBCOM-BUSSINES-ECO-1->

[Eng.pdf](http://elibrary.vsscicollege.ac.in/web/data/books-com-)4. <http://elibrary.vsscicollege.ac.in/web/data/books-com->

[sc/bcom1/BUSINESS%20ECONOMICS.pdf](http://elibrary.vsscicollege.ac.in/web/data/books-com-sc/bcom1/BUSINESS%20ECONOMICS.pdf)

## Part D- Assessment and Evaluation

|  |   |                          |
|--|---|--------------------------|
| Suggested Continuous Evaluation Methods:<br>Maximum Marks: 100<br>Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks |   |                          |
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30  | Class Test<br>Assignment/Presentation<br>E-quiz | 30                       |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours   | <b>Section (A) : Six Very Short Questions</b>   | 06 x 01 = 06             |
|  | <b>Section (B) : Five Short Questions</b>       | 05 x 08 = 40             |
|  | <b>Section (C) : Two Long Questions</b>         | 02 x 12 = 24<br>Total 70 |

*Teacher* *DK* *W* *MS* *Madhavi* *D*  
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### Part A: Introduction

|                                      |  |                           |
|--------------------------------------|--|---------------------------|
| <b>Programme: Certificate Course</b> | <b>Class: I Year</b>   | <b>Session: 2024-2025</b> |
| <b>Subject: Commerce</b>             |  |                           |
| Course Code:                         | EL-110   |                           |
| Course Title :                       | Banking and Insurance  |                           |
| Course Type:                         | Elective   |                           |
| Pre-requisite:                       | Not required (open for all)  |                           |
| Course Learning Outcomes             | The successful completion of this course shall enable the student: <ul style="list-style-type: none"><li>• To understand Banking and insurance services for the economic growth of a country and importance for the entire business procedure.</li><li>• To understand the banking system, banking procedure, practical banking, etc.</li><li>• To understand the Insurance system, insurance procedure, regulation of banking and insurance.</li><li>• They also shall be capable to earn employment in the field of banking and insurance.</li></ul> |                           |
| Credit Value                         | 6  |                           |
| Total Marks                          | Max. Marks -30+70  | Min Passing Marks 35      |

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| PART B- CONTENT OF THE COURSE                |  |                          |
|--|--|--------------------------|
| Total No. of Lectures (in hours per week)- 6 |  | Total Lectures: 90 hours |
| Unit   | Topic  | No. of Hours             |
| I  | <p><b>Introduction to Banking:</b> Historical background of banking. Definition, principles and importance of bank. Classification of bank. Functions of commercial bank. Structure of commercial banking in India. Features of Indian banking system, credit creation.</p> <p><b>Central banking:</b> RBI and its functions. Credit control.</p> <p><b>Nationalization and Merger of banks:</b> General Introduction to Nationalization of Banks. Evaluation of nationalization and merger of Indian banks.</p> <p><b>Recent Trends in Banking:</b> Digital Banking in India, Evolution of Digital Banking, Electronic transactions through digital platforms like UPI, AEPS, and BHIM etc.</p> | 18                       |
| II   | <p><b>Bank Deposits:</b> Meaning and types. Features of bank accounts. Procedure to open and close bank accounts (Including online procedure).</p> <p><b>Loans and Advances:</b> Principles to sanction loans and advances. Classification of loans and advances. Procedure to apply for house loan, personal loan, education loan and commercial loan.</p>  | 18                       |
| III  | <p><b>Insurance:</b> Historical background of Insurance. Meaning, elements, basic principles and importance of insurance. Kinds of insurance. Regulation of insurance in India.</p> <p><b>IRDA:</b> Functions and role to regulate insurance in India.</p>   | 18                       |
| IV   | <p><b>Life Insurance:</b> Historical background, meaning, objectives, importance, essential elements. Life Insurance Policy and its types. 'Insurance proposal to policy'- Procedure, Conditions of Life Insurance Policies, Claim filing procedure and settlement of claims.</p> <p><b>Life Insurance Corporation of India:</b> Functions, progress and Evaluation.</p>   | 18                       |
| V  | <p><b>General Insurance:</b> Meaning, objectives &amp; importance. Kinds of general insurance and its features. Basic principles of general insurance. Procedure to apply general insurance policies. Claim filing procedure and settlement of claims.</p> <p><b>General Insurance Corporation of India:</b> Functions, progress and structure. Performance of private sector companies in general insurance sector.</p>   | 18                       |
| Key Words                                    | <b>Banking, Insurance, Nationalization, Loans and Advances Progress, Regulation, Recent trends in Banking</b>  |                          |

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## Part C-Learning Resources

1. Dr. Q.P. Gupta & Dr. Sudhir Kumar Sharma, Banking & Insurance, Sahitya Bhawan Pub., Agra
2. Dr. R. L. Nolakha, Principles of Insurance, R.B.D. Publication, Jaipur
3. Dr K.P.M. Sundaram & Dr P. N. Varshney, Banking Theory Law & Practice, S.ChandSons, New Delhi

### Suggestive digital platforms, web links:

1. [http://www.universityofcalicut.info/SDE/Banking\\_on19May2016.pdf](http://www.universityofcalicut.info/SDE/Banking_on19May2016.pdf)
2. <http://www.gdcboysang.aain/Aboutdroid/uploads/B15thSemBcom.pdf>
3. [https://ebooks.lpude.in/management/bba/term\\_5/DMGT303\\_BANKING\\_AND\\_INSURANCE.pdf](https://ebooks.lpude.in/management/bba/term_5/DMGT303_BANKING_AND_INSURANCE.pdf)
4. <https://www.subhshiv.in/2021/03/Bima-avm-bank-ke-prakar-notes-PDF.html>

| Part D- Assessment and Evaluation  |   |                          |
|--|---|--------------------------|
| Suggested Continuous Evaluation Methods:<br>Maximum Marks: 100<br>Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks |   |                          |
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30  | Class Test<br>Assignment/Presentation<br>E-quiz | 30                       |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours   | <b>Section(A) : Six Very Short Questions</b>    | 06 x 01 = 06             |
|  | <b>Section (B) : Five Short Questions</b>       | 05 x 08 = 40             |
|  | <b>Section (C) : Two Long Questions</b>         | 02 x 12 = 24<br>Total 70 |

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| Part A: Introduction        |                                |  |
|-----------------------------|--------------------------------|--|
| Program: Certificate Course |                                | Class: I Year  |
|                             |                                | Session: 2024-2025   |
| Subject: Mathematics        |                                |  |
| 1                           | Course Code                    | EL-111   |
| 2                           | Course Title                   | Calculus and Differential Equations  |
| 3                           | Course Type                    | Elective   |
| 4                           | Pre-requisite (if any)         | To study this course, a student must have had the subject Mathematics in class 12 <sup>th</sup> .  |
| 5                           | Course Learning Outcomes (CLO) | The course will enable the students to:<br>1. Sketch curves in a plane using its Mathematical properties in the different coordinate systems of reference.<br>2. Using the derivatives in Optimization. Social sciences, Physics and Life sciences etc.<br>3. Formulate the Differential equations for various Mathematical models.<br>4. Using techniques to solve and analyze various Mathematical models. |
| 6                           | Credit Value                   | Theory:6   |
| 7                           | Total Marks                    | Max.Marks:30+70      Min. Passing Marks: 35  |

| Part B: Content of the Course                               |   |                         |
|---|---|-------------------------|
| Total No. of Lectures (in hours per week): 6 hours per week |   | Total Lectures: 90hours |
| Unit  | Topics  | No. of Lectures         |
| 1   | I.I Historical background:<br>1.1.1 Development of Indian Mathematics:<br>Ancient and Early Classical Period (till 500CE)<br>1.1.2 A brief biography of Bhaskaracharya<br>(with special reference to Lilavati) and Madhava<br>Successive differentiation<br>Leibnitz theorem<br>Maclaurin's series expansion<br>Taylor's series expansion<br>Partial Differentiation<br>Partial derivatives of higher order<br>Euler's theorem on homogeneous functions<br>Asymptotes<br>Asymptotes of algebraic curves<br>Condition for Existence of Asymptotes<br>Parallel Asymptotes<br>I.4.4 Asymptotes of polar curves | 18                      |



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|     |  |    |
|-----|--|----|
| II  | 2.1 Curvature'<br>2.1.I Formula for radius of Curvature: Curvature at origin, Centre of Curvature<br>Coocavity and Convexity: Concavity and Convexity of curves<br>Point of Inflexion, Singular point, Multiple points<br>Tracing of curves<br>Curves represented by Cartesian equation<br>Curves represented by Polar equation  | 18 |
| III | 3.1 Integration of transcendental functions<br>Introduction to Double and Triple Integral. Reduction formulae<br>Quadrature<br>3.4.I For Cartesian coordinates<br>3.4.2 For Polar coordinates<br>Rectification: For Cartesian coordinates, For Polar coordinates   | 18 |
| IV  | 4.1 Linear differential equations<br>4.1.1 Linear equation: Equations reducible to the linear form<br>Change of variables, Exact differential equations<br>First order and higher degree differential equations<br>Equations solvable for x, y and p<br>Equations homogenous in x and y<br>Clairaut's equation, Singular solutions, Geometrical meaning of differential equations, Orthogonal trajectories | 18 |
| V   | 5.1 Linear differential equation with constant coefficients<br>Homogeneous linear ordinary differential equations<br>Linear differential equations of second order<br>Transformation of equations by changing the dependent/<br>Independent variable<br>5.5 Method of variation of parameters  | 18 |

### Keywords/Tags

Indian Mathematics, Successive differentiation, Partial Differentiation, Asymptotes, Curvature, Tracing of curves. Rectification, Linear differential equations, Method of variation or parameters.

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SAR, SP, Ghosh, J, GT, SP, 11/17



| <b>Part C: Learning Resources</b>   |  |
|---|--|
| Text Books, Reference Books, Other Resources  |  |
| <b>Suggested Readings:</b>  |  |
| <b>Text Books:</b>  |  |
| <ol style="list-style-type: none"> <li>1. Gorakh Prasad: Differential Calculus, Pothishala Private Ltd., Allahabad, 2016.</li> <li>2. Corakh Prasad: integral Calculus, Pothishala Private Ltd. Allahabad, 2015.</li> <li>3. M.D. Raisinghania: Ordinary and Partial Differential Equations. S Chand A Co Ltd, 2017.</li> <li>4. Gerard G. Emch, R.Sridharanand M.D. Srinivas: Contributions to the History of Indian Mathematics. Hindustan Book Agency, Vol.3, 2005.</li> </ol>   |  |
| <b>Reference Books:</b>   |  |
| <ol style="list-style-type: none"> <li>1. N. Piskunov: Differential and Integral Calculus, CBS Publishers, 1996.</li> <li>2. G.F. Simmons: Differential Equations, Tata McGraw Hill. 1972.</li> <li>3. E.A. Codrington: An Introduction to ordinary differential Equation, Prentice Hall of India, 1961.</li> <li>4. D.A. Murray: introductory Course in Differential Equations, Orient Longman (India) 1967.</li> <li>5. H.T. H Piaggio: Elementary Treatise on Differential Equations and their Application, C.B.S. Publisher &amp; Distributors, Delhi. 1985.</li> <li>6. Bibhuti bhusan Datta and Avadhesh Narayan Singh: History of Hindu Mathematics, Asia Publishing House, 1962.</li> </ol> |  |
| <b>Suggested Digital Platform Web links:</b>  |  |
| <a href="https://epp.inflibnet.ac.in">https://epp.inflibnet.ac.in</a>   |  |
| <a href="https://freevideolectures.com./university/iit-roorkes">https://freevideolectures.com./university/iit-roorkes</a>   |  |
| <a href="https://www.higfirededucation.mp.gov.in/?page=xhzhfQmpZwkyIfo2b%2Fy5G7w%3D%3D">https://www.higfirededucation.mp.gov.in/?page=xhzhfQmpZwkyIfo2b%2Fy5G7w%3D%3D</a>   |  |
| <a href="https://www.bhojvirtualuniversity.com">https://www.bhojvirtualuniversity.com</a>   |  |
| <b>Suggested Equivalent online courses:</b>   |  |
| <a href="https://nptel.ac.in/courses/I11106100/">https://nptel.ac.in/courses/I11106100/</a>   |  |
| <a href="https://nptel.ac.in/courses/III/101/I11101080/">https://nptel.ac.in/courses/III/101/I11101080/</a>   |  |

| <b>Part D- Assessment and Evaluation</b>  |   |                          |
|---|---|--------------------------|
| <b>Suggested Continuous Evaluation Methods:</b>                                     |   |                          |
| Maximum Marks: 100  |   |                          |
| Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) : 70 marks |   |                          |
| <b>Internal Assessment:</b>   | Class Test                                    | 30                       |
| Continuous Comprehensive Evaluation (CCE): 30                                       | Assignment/Presentation                       |                          |
|   | E-quize                                       |                          |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours    | <b>Section (A) : Six Very Short Questions</b> | 06 x 01 = 06             |
|   | <b>Section (B) : Five Short Questions</b>     | 05 x 08 = 40             |
|   | <b>Section (C) : Two Long Questions</b>       | 02 x 12 = 24<br>Total 70 |

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| Part A: Introduction                  |                               |  |
|---------------------------------------|-------------------------------|--|
| Program: Certificate/ Diploma/ Degree |                               | Class: I Year  |
|                                       |                               | Session: 2024-2025   |
| Subject: Mathematics                  |                               |  |
| 1                                     | Course Code                   | EL-112   |
| 2                                     | Course Title                  | Computational Mathematics  |
| 3                                     | Course Type                   | Elective   |
| 4                                     | Pre-requisite (if any)        | Student must have basic analytic aptitude.   |
| 5                                     | Course Learning Outcomes CLO) | <p>On successful completion of the course the students shall be able to</p> <ul style="list-style-type: none"><li>• Implement trigonometric solutions for measurements in real world scenarios</li><li>• Implement matrices and simultaneous equations to solve complex problems</li><li>• Use statistical tools efficiently</li><li>• Use Mathematical Logic and predicate calculus for solving problems</li><li>• Apply the concepts of set theory for finding solutions to set related problems</li></ul> |
| 6                                     | Credit Value                  | 6  |
| 7                                     | Total Marks                   | Max.Marks:30+70<br>Min. Passing Marks: 35  |

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| Part B: Content of the Course                               |   |                          |
|---|---|--------------------------|
| Total No. of Lectures (in hours per week): 6 hours per week |   | Total Lectures: 90 hours |
| Unit  | Topic   | No. of Lecture           |
| I   | Trigonometry: Angles & their Measurement, Values of Trigonometry Ratios, Height and Distance. Elementary Matrices and types of matrices.  | 18                       |
| II  | Equations: Simultaneous linear equations, Methods of Solving Simultaneous equations, Quadratic equations.   | 18                       |
| III   | Statistics: Frequency Distribution, Measure of Central Tendency; Mean, Median, Mode.<br>Measures of variation: Mean deviation, Standard deviation.  | 18                       |
| IV  | Mathematical Logic: Statements and notation, Connectives: Negation, Conjunction, and Disjunction. Statement formula and truth tables. Tautologies, Tautological implication, contradiction contingency. | 18                       |
| V   | Set Theory: Basic concept of set theory, notation, inclusion and equality of sets, the power sets, operations on set, Venn diagrams.  | 18                       |

| Part C: Learning Resources   |  |
|--|--|
| Text Books. Reference Books, Other Resources   |  |
| Suggested Readings:<br>Text Books:   |  |
| <ul style="list-style-type: none"><li>• Business mathematics SM Shukla sahitya bhavan publication</li><li>• Business mathematics DC Agarwal Sri Sai Prakasha</li><li>• Text book of discrete mathematics S K Sarkar s Chand</li><li>• Reference books</li><li>• Fundamental of statistics Taj Mahal publications</li><li>• Mathematical statistics Ray and Sharma Ramprasad and sons</li><li>• Business mathematics Sancheti and Kapoor s Chand and sons</li><li>• Business mathematics structure with applications to computer science. Indian edition JP Tremblay are Manohar Mcgra Hill Publication</li></ul> |  |

*[Handwritten signatures and initials in blue ink]*



# St. Paul Institute of Professional Studies, Indore



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Accredited by NAAC with 'A' Grade

Phone No. 0731-2499911, 49661355, 4961356

E-mail: [info@spipsindore.ac.in](mailto:info@spipsindore.ac.in), Website: [www.spipsindore.com](http://www.spipsindore.com)

| Part D- Assessment and Evaluation   |                                       |              |
|---|---------------------------------------|--------------|
| Suggested Continuous Evaluation Methods:  |                                       |              |
| Maximum Marks: 100  |                                       |              |
| Continuous Comprehensive Evaluation (CCE) : 30 marks University Exam (UE) :70 marks |                                       |              |
| <b>Internal Assessment :</b>  | Class Test                            | 30           |
| Continuous Comprehensive  | Assignment/Presentation               |              |
| Evaluation (CCE):30   | E-quiz                                |              |
| <b>External Assessment :</b>  | Section(A) : Six Very Short Questions | 06 x 01 = 06 |
| University Exam Section: 70   | Section (B) : Five Short Questions    | 05 x 08 = 40 |
| Time : 03.00 Hours  | Section (C) : Two Long Questions      | 02 x 12 = 24 |
|   |                                       | Total 70     |

*[Handwritten signatures and initials]*



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| Part A - Introduction                 |   |   |                       |
|---------------------------------------|---|---|-----------------------|
| Program: Certificate                  |   | Class: B.A. I Year  |                       |
|                                       |   | Session: 2024-25  |                       |
| <b>Subject: Public Administration</b> |   |   |                       |
| 1                                     | Course Code   | EL-113  |                       |
| 2                                     | Course Title  | Indian Administration   |                       |
| 3                                     | Course Type (Core Course/Elective/Generic Elective/Vocational/.. .) | Elective  |                       |
| 4                                     | Pre-requisite (if any)  | To study this course, a student must have passed 12" Class  |                       |
| 5                                     | Course Learning Outcomes (CLO)                                      | <ol style="list-style-type: none"> <li>1. Knowledge regarding the origin and evolution of Public Administration will be acquired.</li> <li>2. Learning about the constitutional and structural framework on which Indian Administration is based.</li> <li>3. Understanding the functioning of various administrative agencies under the Indian federal structure.</li> <li>4. Awareness about the institutions and mechanism for citizen state interface.</li> </ol> |                       |
| 6                                     | Credit Value  | 06  |                       |
| 7                                     | Total Marks   | Max. Marks: 70+30   | Min. Passing Marks:35 |

| Part B — Content of the Course   |   |                          |
|--|---|--------------------------|
| Total No. of Lectures (in hours per week)- 6   |   | Total Lectures: 90 hours |
| Unit   | Topics  | No. of Lectures          |
| 1  | <b>Evolution &amp; Constitutional Framework:</b> Evolution of Indian Administration during Ancient, Medieval and British Period; Constitutional Framework of Indian Administration; Salient features of Indian Administration.  | 18                       |
| 2  | <b>Union Government:</b> The President; Prime Minister & Council of Ministers.  | 18                       |
| 3  | <b>Central Line and Staff Agencies:</b> Central Secretariat, Cabinet Secretariat, Prime Minister Office, Ministry of Home and Finance.  | 18                       |
| 4  | <b>Constitutional Institutions- Union State Relation &amp; Control over Administration:</b> Election Commission of India; Union Public Service Commission and Finance Commission of India; Union State Relations (Legislative, Executive and Financial); Parliamentary, Executive and Judicial Control over Administration. | 18                       |
| 5  | <b>Citizen and State Interface:</b> Citizens Grievance Redressal; Institutions and Mechanisms for Preventions of Corruption: Central Vigilance Commission; Lok Pal and Lok Ayukta; Political and Civil Servant Relationship.  | 18                       |
| <b>Key words :</b> Union Government, Constitutional Institutions. Lok Pal, Lok Ayukta; |   |                          |

5-8-24

5/8/24

P. Bhasina  
5/8/24

5/8/24

Pradun  
5/8/24

Shalini  
5/8/24

Rshree



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**Part C — Learning Resources**

Text Books, Reference Books, Other Resources

1. Arora, Ramesh K. and Goyal, Rajni. Indian Public Administration: Institutions and Issues. New Age International Publishers: New Delhi.
2. Avasthi, A and Avasthi, A P. Indian Administration. Lakshmi Narain Agrawal: Agra
3. Balfour, Lady Betty Lord Lytton's Indian Administration 1 876-1 880 The Untold History. Gyan Books: New Delhi
4. Basu, D D. Introduction to the Constitution of India (21" Edition). Lexus Nexus: NewDelhi
5. Chakraborty, Bidyut Indian Administration. Sage: New Delhi
6. Cott, J E Woola British Rule in India. Anmol: Delhi
7. Fadia, B L and Fadia, Kuldeep Indian Administration, (New Edition). Sahitya Bliawan: Agra
8. Ghuman, B S; Monga, Anil and Johal. Ramanjit Kaur (Eds.) Corruption and Quality of Governance: Experiences of Select Commonwealth Countries. Aalekh Publishers: Jaipur
9. Kamgle R P The Kautiya Arthshastra. Motilal Banarsidass: New Delhi
10. Kapur, Devesh; Mehta, Pratap Bhanu and Vaishnav, Milan (Eds.) Rethinking Public Institutions in India. Oxford University Press: New Delhi
11. Maheshwari, S R Indian Administration. Orient Longman: New Delhi
12. Palmer, N D Indian Political System. George Alien and Unwin: London
13. Sarkar, Jadunath Sir Mughal Administration. M.C. Sarkar: Calcutta
14. Sharma, Ashok Administrative Institutions in India. RBSA Publishers: Jaipur
15. Sharma, M Indian Administration. Anmol: New Delhi
16. Sharma, Prabhu Dutta and Sharma, B M Indian Administration: Retrospect and Prospect. Rawat Publications: Jaipur
17. Singh, M and Singh. H Public Administration in India. Sterling Publishers: New Delhi

**Web Resources :**

- <https://epustakalay.com/hook/>
- <https://parliamentofindia.nic.in/https://presidentofindia.nic.in/>
- <https://www.pinindia.Nov.in/en/>
- <https://loksabha.nic.in/>
- <https://rajvasabha.nic.in/>
- <https://main.sci.eov.in/>
- <http://vikramuniv.ac.in/political-science/>

**Part D- Assessment and Evaluation**

Suggested Continuous Evaluation Methods:

Maximum Marks: 100

Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks

|  |  |              |
|--|--|--------------|
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30      | Class Test                                   | 30           |
|  | Assignment/Presentation                      |              |
| E-quiz   |  |              |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours | <b>Section(A) : Six Very Short Questions</b> | 06 x 01 = 06 |
|  | <b>Section (B) : Five Short Questions</b>    | 05 x 08 = 40 |
|  | <b>Section (C) : Two Long Questions</b>      | 02 x 12 = 24 |
|  | <b>Total 70</b>                              |              |

*Shalini 10/6/24*  
*Radwa*  
*Pshuwa 10/6/24*  
*10/6/24*  
*10/6/24*  
*10/6/24*



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| PART A: Introduction            |  |  |
|---------------------------------|--|--|
| Program: Certificate            |  | Class: I Year  |
| Session: 2024-2025              |  |  |
| Subject: Multimedia & Animation |  |  |
| 1.                              | Course Code  | EL-114T  |
| 2.                              | Course Title   | Multimedia & Animation   |
| 3.                              | Course Type (Core Course/Elective/Generic Elective/Vocational) | Elective   |
| 4.                              | Pre-Requisite (if any)   | To study this course, a student must have prior basic knowledge of using computer and internet. This course is open for all.   |
| 5.                              | Course Learning Outcomes(CLO)                                  | <b>On completion of this course, learners will be able to:</b> <ol style="list-style-type: none"><li>1. Gain a deep understanding of animation principles and techniques, character motion graphics.</li><li>2. Students will be able to find jobs in various fields.</li><li>3. Develop skills in utilizing multimedia software such as Adobe Creative Suite to create engaging visual content.</li></ol> |
| 6.                              | Credit Value   | 4 Theory + 2 Practical   |
| 7.                              | Total Marks  | Max. Marks: 30+70  |
|                                 |  | Min. Passing Marks: 35   |

*Handwritten signatures and initials:*  
S. J. (with a large flourish), Parikh, GT, NIT, J, A.



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| PART B: Content of the Course                       |   |                 |
|---|---|-----------------|
| No. of Lectures (in hours per week): 4 Hr. per week |   |                 |
| Total No. of Lectures: 60 Hrs.                      |   |                 |
| Unit  | Topics  | No. of Lectures |
| I   | <p><b>Introduction to Multimedia:</b> What is multimedia. Multimedia and Hypermedia, Components of multimedia -textual, images, graphics, animation. audio and video. Linear and Non-Linear Multimedia, Application of Multimedia, Requirement of Multimedia System.</p> <p><b>Multimedia Authoring Tools :</b> Multimedia Authoring. Multimedia Authoring Metaphors, Multimedia Production. Multimedia Presentation and tools. Automatic Authoring. Editing and Authoring Tools. Multimedia Hardware. Compression &amp; Decompression.</p>   | 12              |
| II  | <p><b>Fonts and Hypertext:</b> Usage of text in Multimedia, Families and faces of fonts. outline fonts. bitmap fonts. International character sets and hypertext. Digital font's techniques.</p> <p><b>Image fundamentals:</b> Image formats, Bitmap and Vector. Color Models, Color palettes, 2D Graphics, Image Compression and File Formats : GIF, JPEG, JPEG 2000, PNG, TIFF, EXIF, PS. PDF,</p> <p>Basic Image Processing. Use of image editing software, Photo Retouching. Image resolution. Colour. Raster and Vector Graphics.</p>  | 12              |
| III   | <p><b>Audio fundamentals:</b> Audio quality, formats and devices, Digitization of sound. frequency and bandwidth, decibel system. data rate, audio file format, Sound synthesis. Musical Instrument Digital Interface (MIDI), wavetable. Compression and transmission of audio on Internet, Editing and adding sound to multimedia project, Audio software and hardware.</p> <p><b>Video Fundamental:</b> Video basics. Formats. how video works. Types of video signals - component. composite and S-video. Analog video, Digital video, Broadcast Video Standards (NTSC, PAL), Video Recording and Tape formats. Shooting and editing Video, Video compression and File formats (JPEG.MPEG), Video software and hardware.</p> | 12              |
| IV  | <p><del>Animation:</del> Introduction and definition of animation, Principles. Types and uses. Methods and Techniques of animation, Basic animation, Text and image animation. Time line construction and management. Masking Motion and shape Tweening. Morphing, Onion skinning. Animation File Formats. Keyframe animation, Working with symbols and Animation Software.</p>   | 12              |

*Handwritten signatures and initials:* AAB, W, S.P. Singh, J.T, J, NIT



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|   |   |    |
|---|---|----|
| V | <p><b>Basic 2D and 3D animation:</b> Overview of 2D animation and its features, Drawing tools. types of panels. transformation, property panel. working with objects. group, bitmap. Controlling Movie clips with code. Working with Dynamic Text fields and Input Text Fields. Loading external content and other movies. Dynamic preloaders.</p> <p>Interactivity with code. Difference between 2D and 3D animation, Tweening and motion along a path, Controlling movie playback. Text and hyperlink. adding sound and movie. Introduction to 3D animation and its basic concepts, and its applications.</p> | 12 |
|   | <p>Keywords/Tags: Multimedia. Hardware, Software, Images, GIF, JPEG, JPEG 2000, PNG, TIFF, EXIF, PS, PDF, Video, Compression. Animation. Tweening, Morphing, controlling movie clips, transformation. 2D, 3D, MIDI. file formats.</p>   |    |

**PART C: Learning Resources**

Textbooks, Reference Books, Other Resources

Suggested Readings :

- Tay Vaughan, "Multimedia Making It Works", Tata McGraw-Hill.
- Ze-Nian Li and Mark S. Drew "Fundamentals of Multimedia" Pearson Education International.
- Rajneesh Aggarwal & B. B Tiwari, "Multimedia Systems", Excel Publication. New Delhi
- Li & Drew. "Fundamentals of Multimedia", Pearson Education.
- Parekh Ranjan, "Principles of Multimedia", Tata McGraw-Hill.
- M.Mahalakshmi. Multimedia '. Margham Publications,
- Pakhira, Malay K, "Computer Graphics, Multimedia and Animation", Prentice Hall India Pea. Ltd.
- Liz Blazer Animated Storytelling: Simple Steps for Creating Animation and Motion Graphics."
- Andy Beane "3D Animation Essentials" John Wiley.

**Suggestive digital platform web links :**

[http://eptp.intoibnet.ac.in/Home\\_Vice\\_Subject?catid=7](http://eptp.intoibnet.ac.in/Home_Vice_Subject?catid=7) [https://onlinecourses.soain2.ac.in/cec21\\_cs18\\_pre\\_ie](https://onlinecourses.soain2.ac.in/cec21_cs18_pre_ie)  
[https://onlinecourses.seasarn2.ac.iii/wori21\\_cs04/preview](https://onlinecourses.seasarn2.ac.iii/wori21_cs04/preview)

**Suggested equivalent online courses**

<https://wii s.classcentral.cont/course/sea am-animations-13880>

**Part D- Assessment and Evaluation**

Suggested Continuous Evaluation Methods:

Maximum Marks: 100

Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks

|  |   |              |
|--|---|--------------|
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30      | Class Test<br>Assignment/Presentation<br>E-quiz | 30           |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours | <b>Section(A) : Six Very Short Questions</b>    | 06 x 01 = 06 |
|  | <b>Section (B) : Five Short Questions</b>       | 05 x 08 = 40 |
|  | <b>Section (C) : Two Long Questions</b>         | 02 x 12 = 24 |
|  |   | Total 70     |



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| PART A: Introduction      |  |   |
|---------------------------|--|---|
| Program: Certificate      | Class: B.Com/BBA I Year  | Session: 2024-2025  |
| Subject: Computer Science |  |   |
| 1.                        | Course Code  | <b>EL-114P</b>  |
| 2.                        | Course Title   | <b>Multimedia &amp; Animation Lab</b>   |
| 3.                        | Course Type (Core Course/Elective/Generic Elective/Vocational) | <b>Elective</b>   |
| 4.                        | Pre-Requisite (if any)   | To study this course, a student must have prior basic knowledge of using computer and internet. This course is open for all.  |
| 5.                        | Course Learning Outcomes(CLO)                                  | <ul style="list-style-type: none"> <li>On completion of this course, learners will be able to:</li> <li>Gain a deep understanding of animation principles and techniques, character motion graphics.</li> <li>Students will be able to find jobs in various fields.</li> <li>Develop skills in utilizing multimedia software such as Adobe Creative Suite to create engaging visual content.</li> </ul> |
| 6.                        | Credit Value   | 2   |
| 7.                        | Total Marks  | Max. Marks: 30+70<br>Min. Passing Marks: 35   |

Note: In the first week of the lab, the instructor must facilitate the students with the basic operation of multimedia tools and software like Coreldraw, Photoshop, Picasa, Sound forge, Waveform Editor, Moviemaker, Dreamweaver, Macromedia Flash, 3D Max, Blender etc. or any other open source suitable multimedia tools.

| PART B: Content of the Course                              |   |                     |
|--|---|---------------------|
| No. of Lab. Practical (in hours per week): 2 Hrs. per week |   |                     |
| Total No. of Lab Hrs. 30                                   |   |                     |
|  | <b>Suggestive List of Practical</b>   | <b>No. of Labs.</b> |
|  | <ol style="list-style-type: none"> <li>Prepare a multimedia presentation</li> <li>Prepare and edit different types of images, and their conversion into other file formats.</li> <li>Learning to do Image, Audio and Video file Compression.</li> <li>Prepare different types of graphics.</li> <li>Design multimedia posters and banners.</li> <li>Morphing and Tweening of images.</li> <li>Create animation of basic movements like bouncing a ball, moving a wheel, dancing a doll etc.</li> <li>Apply different operations (rotation, scaling, movement etc...) on objects.</li> <li>Recording of video and audio</li> <li>Integration of sound files and editing</li> </ol> | 30 Hours            |

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|  |   |  |
|--|---|--|
|  | <ol style="list-style-type: none"> <li>11. Integration of video files and editing</li> <li>12. Prepare jingles and advertisements by applying multimedia tools.</li> <li>13. Develop a 2D animation using shape tweening and motion tweening.</li> <li>14. Create a 2D animation using motion guide layer and masking</li> <li>15. Create text animation</li> <li>16. Design simple 3D animation using basic shapes.</li> <li>17. Develop basic 3D animation of different objects.</li> <li>18. Create a small animated story.</li> </ol> |  |
|--|---|--|

**Keywords/Tags:** CorelDraw, Photoshop, Picasa, Sound forge, Waveform Editor, Moviemaker, Dreamweaver, Macromedia Flash, 3D Max, Blender, Video, Compression, Animation, Tweening, Morphing, controlling movie clips, transformation, 2D, 3D, MIDI.

**PART C: Learning Resources**

**Textbooks, Reference Books, Other Resources**

**Suggested Readings :**

- Tay Vaughan. "Multimedia Making It Works". Tata McGraw-Hill.
- Ze-Nian Li and Mark S. Drew "Fundamentals of Multimedia" Pearson Education International.
- Rajneesh Aggarwal & B. B Tiwari. "Multimedia Systems", Excel Publication, New Delhi
- Li & Drew, "Fundamentals of Multimedia", Pearson Education.
- Parekh Ranjan, "Principles of Multimedia", Tata McGraw-Hill.
- M.Maha Lakshmi, "Multimedia", Markham Publications,
- Pakhira. Malay K. "Computer Graphics, Multimedia and Animation". Prentice Hall India Pvt. Ltd.
- Liz Blazer "Animated Storytelling: Simple Steps for Creating Animation and Motion Graphics." Andy Beane "3D Animation Essentials" John Wiley.

**Suggestive digital platform web links :** <https://epgp.inflibnet.ac.in/Home/ViewSiiblect?catid=7>  
[https://onlinecourses.swani2.ac.in/cec21\\_cs1S/presie](https://onlinecourses.swani2.ac.in/cec21_cs1S/presie) <https://onlinecourses.swani2.ac.in/nou21cs04/presieiv>

**Suggested equivalent online courses**

<https://www.classcentral.com/course/swav-irm-animations-13880>

*Handwritten signatures and initials:* JAB, MS, Saritha, GT, Nitya



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**PART D: Assessment and Evaluation**

Internal Assessment: Continuous  
Comprehensive Evaluation (CCE) : 30

External Assessment: University Exam (UE):  
70 Marks Time: **02.00 Hours**

| Internal Assessment   | Marks           | External Assessment      | Marks           |
|---|-----------------|--------------------------|-----------------|
| Hands-on Lab Practice   | 5 Marks         | Practical record file    | 10 Marks        |
| Lab Test from practical list & internal viva                                    | 15 Marks        | Viva voce on practical   | 10 Marks        |
| Assignments (Charts/ Model/ Seminar / Rural Service/ Technology/ Dissemination/ | 10 Marks        | Table works/ Experiments | 50 Marks        |
| <b>Total</b>  | <b>30 Marks</b> | <b>Total</b>             | <b>70 Marks</b> |

**Any remarks/suggestions: Focus of the lab practical /course should be on developing creative designing, visualization and implementation abilities to solve real world problems.**

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**Part A: Introduction**

|   |  |                      |                           |
|---|--|----------------------|---------------------------|
| <b>Program: Certificate</b>             |  | <b>Class: I Year</b> | <b>Session: 2024-2025</b> |
| Subject: Computer Science               |  |                      |                           |
| Course                                  | EL-115T  |                      |                           |
| Course Title:                           | Data Analysis and Visualization through spread sheets  |                      |                           |
| Course Type:                            | Elective   |                      |                           |
| Pre-requisite:                          | To study this course, a student must have prior basic knowledge of using computer and Internet. This course is open for all  |                      |                           |
| Course Learning Outcomes                | On the completion of this course learners will be able to:<br>1. Prepare a spreadsheet file and enter data into the sheet.<br>2. illustrate formatting and editing capabilities on the data.<br>3. demonstrate basic calculations and save data.<br>4. import and export data into the spreadsheet.<br>5. Demonstrate basic visualising, analysing, organising, and sharing techniques.<br>6. Do the jobs in financial as well as in other business-related industries across the globe.           |                      |                           |
| Expected Job Role /career opportunities | 1. Accountants and Auditors<br>2. Administrative Assistants, Office Clerks, and Information Staff<br>3. Analysts in Business, Management, and Markets<br>4. Cost estimators<br>5. Educators, Teaching Assistants, and Instructors<br>6. Financial Analysts, Investment Bankers, and Loan Officers<br>7. Analysts of Market Research and Digital Marketers<br>8. Construction Managers, Project Managers, and Project Coordinators<br>9. Managers of Sales, Marketing, Training, and Administration |                      |                           |
| Credit Value                            | 4 Theory + 2 Practical   |                      |                           |
| Total Marks                             | Max. Marks — 30+70   |                      | Min. Passing Marks 35     |

**Part B: Content of the course**

| No. of Lectures (in hrs. per week): 4 Lecture per week |  |                 |
|--|--|-----------------|
| Total No. of Lectures: 60 Hrs.                         |  |                 |
| Module   | Topics   | No. of Lectures |
| I  | <p><b>Introduction to Spreadsheet-</b> What is Spreadsheet, History, Importance, Brands and platforms, Excel, Calc and Google Sheets, User Interface, Ribbon, Quick Access toolbar.</p> <p><b>Basics of Spreadsheet-</b> Overview of spreadsheet, opening new file and saving spreadsheet through menu and keyboard shortcut, rows, columns, cells, workbooks and worksheets. Fundamentals of rows, columns and cells and navigation; various modes of selecting cells (shift arrow, ctrl shift arrow, mouse click and drag mouse click and shift click); merging cells; selecting rows and columns, non-contiguous cells; how to enter data (numeric, text, date), Autofit, keyboard navigation, auto complete, navigating edges, navigating first and last used cells, working with multiple sheet, inserting and deleting sheets, renaming sheets.</p> <p><b>Number formatting-</b> introduction general and text number and fraction NC, accounting, percentage date, time; inserting and deleting rows and cells.</p> <p><b>Formatting cells-</b> introduction bold, italics and underline, border, fill and font, alignment, format painter and clear format, editing the cell</p> | 12              |

*Handwritten signatures and initials:*  
 T. S. ...  
 S. ...  
 G. E.  
 M. H.  
 S. ...  
 S. ...



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|     |   |    |
|-----|---|----|
| II  | <p>content, entering multiple lines of text using ctrl+ enter, autofill, copy and paste, cut and paste, autofill series, use of fill, handle through mouse.</p> <p><b>printing worksheet:</b> Select Print Area, See Print Preview, Adjusting Margin During Print Preview.</p> <p><b>Page formatting:</b> Page Layout-Orientation, Size, Margins; Watermark, Page Colour, Page Borders; Inserting Headers And Footer, Inserting Page Numbers Date Path And Filename.</p> <p><b>Viewing:</b> Easy View Using Freeze Panes(Freeze Rows And Columns), Split Windows, Layout View(Normal, Page Break And Print).</p> <p><b>Saving and sharing file:</b> Embed, PDF, Share Workbooks Through Onedrive Online.</p> <p><b>Import and export data:</b> Import Access Data, Microsoft Query, Import/Export Text Files,XML.</p> <p><b>Protecting/securing using file properties:</b> protect workbook, protect sheet, lock cells, read only workbook.</p> <p><b>Template:</b> Creating worksheet through template-Budget, Calendar, Holidays, Meal Planner, Invoice, Automated Invoice, Default Templates, Time Sheet, BMI Calculator. Saving worksheet as template.</p> <p><b>Calculations:</b> Entering Formula, editing Formula, copying formula, cell reference (absolute, Relative and mixed),paste formula(using keyboard shortcut and fill handle).</p> <p>Data Validation: Reject Invalid Dates, Budget Limit Prevent Duplicate Entries, Product Codes, Drop Down List, Dependent Drop-Down List, Cm to Inches, Kg to gm.</p> | 12 |
| III | <p><b>Introduction to Functions:</b> What is function, entering functions, types of functions.</p> <p><b>Count and Sum:</b> Countif, Count Blank/nonblank Cells, Count Characters, Not Equal To, Count Cells with Text,Sum,Running Total,Sumif, Sum product.</p> <p><b>Date &amp; Time:</b> Dated if, Today's Date, Date and Time Formats, Calculate Age, Time Difference, Weekdays, Days until Birthday, Last Day of the Month, Add or Subtract Time, Quarter, Day of the year.</p> <p><b>Text:</b> Separate Strings, Count Words, Text to Columns, Find, Search, Change Case, Remove Spaces, Compare Text, Substitute Vs Replace, Text, Concatenate, Substring.</p> <p><b>Lookup &amp; Reference:</b> Vlookup, Tax Rates, Index and Match, Two-way Lookup, offset, Case-sensitive Lookup, Closest Match, Compare Two Columns, Xlookup.</p> <p><b>Financial:</b> PMT, Loans with Difference Durations, Investments or Annuity, Compound Interest, CAGR, Load Amortization Schedule, NPV, IPR, Depreciation, Profit Margin.</p> <p><b>Statistical:</b> Average, Negative Numbers to Zero, Random Number, Rank, Percentiles and Quartiles, Box and Whisker plot, Averagelf, Forecast, MaxIfs and Minifls, Weighted Average, Mode, Standard Deviation, Frequency.</p> <p><b>Round:</b> Chop off Decimals, Nearest Multiple, Even and Odd, Mod.</p>  | 12 |



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|    |   |    |
|----|---|----|
| IV | Data Visualization: Introduction to charts, various type of charts(Column, Bar, Pie, Area, XY Scatter, Bubble, Net, Stock, Column & Line); 3-D Shape(Bar, Cylinder,Cone,Pyramid);Chart elements(Tile, Subtitle, X-axis, Y-axis, Z-axis, Display grids, Legends, Display data series); Creating a Chart; Selecting data series, select chart type, Seletct chart components – Labels, background, axes, format and design. Conditional Formatting: Manage Rules, Formula based, Data bars, Colour Scales, Icon Sets, Find Duplicates, Shade Alternate Rows, Compare Two Lists, Conflicting Rules, Heat Map.  | 12 |
| V  | Data Analysis: Sort(Custom Sort Order, Sort by Color, Reverse List, Randomize List, SORT Function). Filter(Number and Text Filters, Date filters, Advanced Filter, Data Form, Remove Duplicates, outlining Data, Subtotal, Unique Values, Filter Function.<br>Pivot Tables: Creating Pivot Table, Group Pivot Items, Pivot Table Summarization, Multi-Level Pivot Table, Frequency Distribution, Pivot Chart, Slicers, Update Pivot Table, Calculated Field/Item, GetPivotData.<br>Tables: Structured References, Table Styles, Quick Analysis.<br>What-If Analysis: Data Tables, Goal Seek, Quadratic Equation Solver: Transportation Problem, Assignment Problem, Capital Investment, Shortest Path Problem, Maximum Flow Problem, Sensitivity Analysis.<br>Analysis Tool Pack: Histogram, Descriptive Statistics, ANOVA, F-Test, t-Test, Moving Average, Exponential Smoothing, Correlation, Covariance, Regression. | 12 |

**Keywords/Tags:** Excel, Calc, Formatting, Protecting range, sheet, Functions, Sort, Filter, Freeze, Pivot, Goal, Seek, Analysis, Visualization, Charts, Graphs, Correlation, Regression.

## PART C: Learning Resources

### Textbooks, Reference Books, Other Resources

#### Suggested Readings:

- Jacek Artymiak, Beginning OpenOffice Calc: From Setting Up Simple Spreadsheets to Business Forecasting,2011, Apress, ISBN: 9781430231592
- Jacek Artymiak, Beginning OpenOffice Calc Functions and Formulas Tips. Essential OpenOffice.org Calc Skills, 1<sup>st</sup> ed., 2011
- Michael Alexander, Richard Kuslieka John Walkenbach.; Microsoft Excel 2019 Bible: The Comprehensive Tutorial Resource; John Wiley & Sons.
- John Walkenbach J.; Microsoft Excel 2016 Bible: The Comprehensive Tutorial Resource; Wiley.
- Fischer W., Excel: Quick Start Guide from Beginner to expert (Excel, Microsoft Office); CreateSpace Independent Publishing Platform.
- Harvey G., Excel 2016 for Dummies (Excel for Dummies); John Wiley & Sons.
- Kalmstrom P.; Excel 2016 from Scratch;Excel course with demos and exercises; CreateSpace Independent Publishing Platform.
- Walkenbach J.; Excel Charts; John Wiley & Sons.

JAB, W, shukla, J, GT, M, M.H.T.



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## Suggested equivalent online courses

<https://www.classcentral.com/course/edx-analysing-and-visualizing-data-with-excel-4480>

## Suggestive digital platform web links

<https://wiki.documentfoundation.org/images/c/c2/CG62-CalcGuide.pdf>

<http://www.openoffice.org/documentation/manuals/userguide3/0309CG3-DataAnalysis.pdf>

<https://documentation.libraryoffice.org/assests/Uploads/Documentation/en/CG4.1/PDF/CG4109-DataAnalysis.pdf>

<https://help.libraryoffice.org/6.1/en-US/text/scalc/01/statistics.html?DbPAR=CALC>

<https://www.vfu.bg/en/e-Learning/MS-Office--excel.pdf>

<http://guides.library.duke.edu/excel/visualization>

## Part D- Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100

Continuous Comprehensive Evaluation (CCE): 30 marks University Exam (UE) :70 marks

|  |   |                          |
|--|---|--------------------------|
| <b>Internal Assessment:</b><br>Continuous Comprehensive Evaluation (CCE):30      | Class Test<br>Assignment/Presentation<br>E-quiz | 30                       |
| <b>External Assessment:</b><br>University Exam Section: 70<br>Time : 03.00 Hours | <b>Section(A) : Six Very Short Questions</b>    | 06 x 01 = 06             |
|  | <b>Section (B) : Five Short Questions</b>       | 05 x 08 = 40             |
|  | <b>Section (C) : Two Long Questions</b>         | 02 x 12 = 24<br>Total 70 |

*Handwritten signatures and initials:*  
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## Part A: Introduction

|   |  |                       |
|---|--|-----------------------|
| Program: Certificate Course             | Class: I Year  | Session: 2024-2025    |
| Subject: Computer Science               |  |                       |
| Course Code                             | EL-115P  |                       |
| Course Title:                           | Data Analysis and Visualization Lab  |                       |
| Course Type:                            | Elective   |                       |
| Pre-requisite:                          | To study this course, a student must have prior basic knowledge of using computer and Internet. This course is open for all.   |                       |
| Course Learning Outcomes                | On the completion of this course learners will be able to:<br><ol style="list-style-type: none"><li>1. Prepare a spreadsheet file and enter data into the sheet.</li><li>2. illustrate formatting and editing capabilities on the data.</li><li>3. demonstrate basic calculations and save data.</li><li>4. import and export data into the spreadsheet.</li><li>5. Demonstrate basic visualising, analysing, organising, and sharing techniques.</li><li>6. Do the jobs in financial as well as in other business-related industries across the globe.</li></ol>                          |                       |
| Expected Job Role /career opportunities | <ol style="list-style-type: none"><li>1. Accountants and Auditors</li><li>2. Administrative Assistants, Office Clerks, and Information Staff</li><li>3. Analysts in Business, Management, and Markets</li><li>4. Cost estimators</li><li>5. Educators, Teaching Assistants, and Instructors</li><li>6. Financial Analysts, Investment Bankers, and Loan Officers</li><li>7. Analysts of Market Research and Digital Marketers</li><li>8. Construction Managers, Project Managers, and Project Coordinators</li><li>9. Managers of Sales, Marketing, Training, and Administration</li></ol> |                       |
| Credit Value                            | 02   |                       |
| Total Marks                             | Max. Marks 30+70   | Min. Passing Marks 35 |

*JAP*

*Arish*  
*W*

*GE*

*N:K-T*

*JA*

*T.N.*



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### PART B: Content of the Course

No. of Lab. Practical (in hours per week): **2 Hrs. per week**

Total No. of Lab.: **30 Hrs.**

### Suggestive List of Practical

**Note:** In the first day of the lab instructor must make the students get familiar with the interface of the Calc/Excel alongwith the movement of cutrsor, rows,columns, cells, cell number identification, formula bar, use of fill handle(drag as well double click), setting width of columns and height of rows, selecting rows and columns, Student must entry some data and practice above.

1. Simple data entry in a workbook in different sheet as given below.
  - a. Use the fill series method to fill the name as A-1, A-2 and Roll no. As 501,502 to 550.
  - b. In Subject S1 Pr, put the marks more than 50 ( to be used in next practical).
  - c. Do not enter data in Total s2 and Total S3 column.
  - d. Perform the Operations:
    - i. Inserting columns and rows.
    - ii. Deleting columns and rows.
    - iii. Selecting range of columns
    - iv. Change the width of columns and height of rows.
    - v. Hiding the rows and columns
    - vi. Show/unhide the rows and columns.
  - e. Rename the worksheet as "UGI -Marks"
  - f. Save the worksheet as marks.

|   | A    | B       | C              | D               | E               | F              | G               | H               | I              | J               | K               | L                      | M |
|---|------|---------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|-----------------|------------------------|---|
| 1 | Name | Roll No | S1-Th(Max. 50) | S1 Pr. (Max 50) | Tot S1(Max 100) | S2-Th(Max. 50) | S2 Pr. (Max 50) | Tot S1(Max 100) | S3-Th(Max. 50) | S3 Pr. (Max 50) | Tot S1(Max 100) | Total Marks (S1+S2+S3) |   |
| 2 | A-1  | 501     | 36             | 40              | =C2+D2          | 45             | 46              |                 | 34             | 39              |                 |                        |   |
| 3 | A-2  | 502     | 27             | 32              |                 | 34             | 38              |                 | 23             | 40              |                 |                        |   |
| 4 | A-3  | 503     | 44             | 46              |                 | 53             | 40              |                 | 40             | 42              |                 |                        |   |
| 5 | A-4  | 504     | 24             | 30              |                 | 34             | 39              |                 | 33             | 40              |                 |                        |   |
| 6 | A-5  | 505     | 43             | 45              |                 | 23             | 29              |                 | 28             | 34              |                 |                        |   |
| 7 | -    | -       | -              | -               |                 | -              | -               |                 | -              | -               |                 |                        |   |
| 8 | -    | -       | -              | -               |                 | -              | -               |                 | -              | -               |                 |                        |   |
| 9 | -    | -       | -              | -               |                 | -              | -               |                 | -              | -               |                 |                        |   |
| 5 | A-50 | 550     | 39             | 45              |                 | 42             | 40              |                 | 32             | 42              |                 |                        |   |

**Keywords/Tags:** Excel, Calc, Formatting, protecting range, sheet, Functions, Sort, Filter, Freeze, Pivot, Goal, Seek, Analysis, Visualization, Charts, Graphs, Correlation, Regression.

*Handwritten signatures and initials:* JAB, [Signature], [Signature], [Signature], [Signature], [Signature], [Signature]





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2. Open the Workbook "Marks" as prepared in practical-1.  
Perform the following operations in this worksheet named "Marks".
  - a. Add the formula in E2 cell as C2+D2 for subject S1 total of theory and practical.
  - b. Copy formula from E2 cell and paste the formula to E3...E51 cells using keyboard and using fill handle with the help of mouse (press and drag and double click on fill handle both)
  - c. Repeat the process a and b for H2 cell(=F2+G2) cell and H3..H51.
  - d. Repeat the process a and b for K2 cell(=I2+J2) cell and K3..K51.
  - e. Find the total of P1+P2+P3 for all A-1 to A-51 students using formula and copy copy-paste method.
  - f. Save the file with keyboard shortcut CTRL+S.
3. In the sheet prepared in experiment-2, validate that any marks are more then 50 in the or greater than 100 in the S1, S2 and S3 theory or practical column and Total Columns. If found correct it and see that totals are automatically calculated. (Hint: Use filter method to find it). Save the file.
4. Use the above file and
  - a. Calculate the percentage of all students in column M by using formula say in M2(=L2/300%) and copy-paste for rest of the students.
  - b. Find the number of students having percentage more than 60%
  - c. Find the number of students having percentage between 45% and 60%.
  - d. Find the number of students having percentage less than 45%
  - e. Save the file.
5. Use the above file (as saved in experiment -4).
  - a. Find the name of the students got highest marks in S1.
  - b. Find the name of the students got highest marks in S2.
  - c. Find the name of the students got highest marks in S3.
  - d. Find the name of the students got highest marks in both Theory and Practical in subject S1, S2, and S3.
6. Use the above file(as saved in experiment-4).
  - a. Sort the data on percentage and show only the top 10 highest rank students.  
Save the file as "Marks-sorted".
  - b. Hide the marks details and show only the name of the student and percentage column.
  - c. Save/Export the file as "Top 10 rank students.pdf" as pdf file.
  - d. Print the worksheet and save as pdf and share it to the instructor.
  - e. Show/unhide all the columns.
  - f. Export the file as "Marks.txt" file as CSV file.
7. Open a blank worksheet.
  - a. Import the CSV file "Marks.txt" file into the worksheet
  - b. Copy the whole content of this worksheet and paste it in the new worksheet in the same file/workbook. Rename this worksheet as "UG2-Marks".
  - c. Change the delete the students having percentage less than 45%. (delete rows)
  - d. Allot the new Roll Nos. to the student from 601 onwards.
  - e. Change the marks of the students. Students will see that the totals automatically change.
  - f. Save the file as template with file name "UG-Marks".
  - g. Save and protect the file with password.
  - h. Save the file
8. Use of various existing template to create the worksheet.
  - a. Modify according to your need
  - b. Get the required result
  - c. Print it with setting of page.
  - d. Save the file
9. Experiments related to the data validation (Use of drop-down list, length conversion etc.)
10. Experiments related to the use of various functions sum, average, count, sumif, countif, autosum etc.
11. Experiments related to the financial and statistical functions and round of the number's functions.
12. Create worksheet related to crop production of various crops in Indian states in last five years (Wheat, Rice, Pulses, Soyabean, Cane-Sugar etc.)
  - a. Make a bar graph
  - b. Make the Pie graph

*SPIPS* *SPIPS* *marks* *for* *UG*

*SPIPS* *NIT*



13. Create worksheet related to sales of a business company having various products in last 4 quarters for 10 salespersons.
  - a. Make a line graph to show the growth/decline of sales
  - b. Show the graph of each salesperson's sales
  - c. Find top 2 salespersons done in all 4 quarters.
  - d. Find the sales person consistent in all 4 quarters.
  - e. Find the most popular product and the least popular product of the company.
14. Make all types of graphs available in the Calc/Excel using the required data with proper Title of the chart, X-axis and Y-axis title and legend titles.
15. Data Analysis using Sort and Filters.
16. Data Analysis using Pivot tables.
17. Use of conditional formatting.
18. Data analysis and Forecasting using what-if-analysis.
19. Use of solver techniques.
20. Experiments related to use of HLOOKUP and VLOOKUP.
21. Working with multiple sheets and linked data.

### PART C: Learning Resources

#### Suggested Readings:

- Jacek Artymiak, Beginning OpenOffice Calc: From Setting Up Simple Spreadsheets to Business Forecasting, 2011, Apress, ISBN: 9781430231592
- Jacek Artymiak, Beginning OpenOffice Calc Functions and Formulas Tips. Essential OpenOffice.org Calc Skills, 1<sup>st</sup> ed., 2011
- Michael Alexander, Richard Kuslieka John Walkenbach.; Microsoft Excel 2019 Bible: The Comprehensive Tutorial Resource; John Wiley & Sons.
- John Walkenbach J.; Microsoft Excel 2016 Bible: The Comprehensive Tutorial Resource; Wiley.
- Fischer W., Excel: Quick Start Guide from Beginner to expert (Excel, Microsoft Office); CreateSpace Independent Publishing Platform.
- Harvey G., Excel 2016 for Dummies (Excel for Dummies); John Wiley & Sons.
- Kalmstrom P.; Excel 2016 from Scratch; Excel course with demos and exercises; CreateSpace Independent Publishing Platform.
- Walkenbach J.; Excel Charts; John Wiley & Sons.

#### Suggestive digital platform web links

- <https://wiki.documentfoundation.org/images/c/c2/CG62-CalcGuide.pdf>  
<http://www.openoffice.org/documentation/manuals/userguide3/0309CG3-DataAnalysis.pdf>  
<https://documentation.libraryoffice.org/assests/Uploads/Documentation/en/CG4.1/PDF/CG4109-DataAnalysis.pdf>  
<https://help.libraryoffice.org/6.1/en-US/text/scalc/01/statistics.html?DbPAR=CALC>  
<https://www.vfu.bg/en/e-Learning/MS-Office--excel.pdf>  
<http://guides.library.duke.edu/excel/visualization>

#### Suggested equivalent online courses:

- <https://www.classcentral.com/course/edx-analysing-and-visualizing-data-with-excel-4480>

*[Handwritten signatures and initials in blue ink, including 'SP', 'MS', 'A', 'G', 'M', 'M']*



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**PART D: Assessment and Evaluation**

| <b>Internal Assessment: Continuous Comprehensive Evaluation (CCE): 30 Marks</b>                  |                 | <b>External Assessment: University Exam (UE) – 70 Marks</b><br>Time: <b>02.00 Hours</b> |                 |
|--|-----------------|---|-----------------|
| <b>Internal Assessment</b>   | <b>Marks</b>    | <b>External Assessment</b>  | <b>Marks</b>    |
| Hands-on Lab Practice  | 10 Marks        | Practical record file   | 10 Marks        |
| Viva   | 5 Marks         | Viva voce practical   | 20 Marks        |
| Lab Test from practical list   | 7 Marks         | Table works/ Exercise Assigned (02) in practical exam                                   | 30 Marks        |
| Assignments (Charts/ Models) Technology Dissemination/ Excursion/ Lab visit/ Industrial Training | 8 Marks         | Reports of excursion/ Lab visits/ Industrial training/ Survey/ Collection/ Models       | 10 Marks        |
| <b>Total</b><br>*Excursion/ Lab visits/ Industrial Training is compulsory                        | <b>30 Marks</b> | Total   | <b>70 Marks</b> |

*[Handwritten signatures and initials in blue ink]*