

Data Analytics with Excel		Semester	3
Course Code	BCS358A	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	0:0:2:0	SEE Marks	50
Credits	01	Exam Hours	100
Examination type (SEE)	Practical		
Course objectives:			
<ul style="list-style-type: none"><li>● To Apply analysis techniques to datasets in Excel</li><li>● Learn how to use Pivot Tables and Pivot Charts to streamline your workflow in Excel</li><li>● Understand and Identify the principles of data analysis</li><li>● Become adept at using Excel functions and techniques for analysis</li><li>● Build presentation ready dashboards in Excel</li></ul>			
Sl.NO	Experiments		
1	<b>Getting Started with Excel:</b> Creation of spread sheets, Insertion of rows and columns, Drag & Fill, use of Aggregate functions.		
2	<b>Working with Data :</b> Importing data, Data Entry & Manipulation, Sorting & Filtering.		
3	<b>Working with Data:</b> Data Validation, Pivot Tables & Pivot Charts.		
4	<b>Data Analysis Process:</b> Conditional Formatting, What-If Analysis, Data Tables, Charts & Graphs.		
5	<b>Cleaning Data with Text Functions:</b> use of UPPER and LOWER, TRIM function, Concatenate.		
6	<b>Cleaning Data Containing Date and Time Values:</b> use of DATEVALUE function, DATEADD and DATEDIF, TIMEVALUE functions.		
7	<b>Conditional Formatting:</b> formatting, parsing, and highlighting data in spreadsheets during data analysis.		
8	<b>Working with Multiple Sheets:</b> work with multiple sheets within a workbook is crucial for organizing and managing data, perform complex calculations and create comprehensive reports.		
9	Create worksheet with following fields: Empno, Ename, Basic Pay(BP), Travelling Allowance(TA), Dearness Allowance(DA), House Rent Allowance(HRA), Income Tax(IT), Provident Fund(PF), Net Pay(NP). Use appropriate formulas to calculate the above scenario. Analyse the data using appropriate chart and report the data.		
10	Create worksheet on Inventory Management: Sheet should contain Product code, Product name, Product type, MRP, Cost after % of discount, Date of purchase. Use appropriate formulas to calculate the above scenario. Analyse the data using appropriate chart and report the data.		

11	Create worksheet on Sales analysis of Merchandise Store: data consisting of Order ID, Customer ID, Gender, age, date of order, month, online platform, Category of product, size, quantity, amount, shipping city and other details. Use of formula to segregate different categories and perform a comparative study using pivot tables and different sort of charts.
12	Generation of report & presentation using Autofilter & macro.
<b>Course outcomes (Course Skill Set):</b> At the end of the course the student will be able to: <ul style="list-style-type: none"><li>● Use advanced functions and productivity tools to assist in developing worksheets.</li><li>● Manipulate data lists using Outline and PivotTables.</li><li>● Use Consolidation to summarise and report results from multiple worksheets.</li><li>● Apply Macros and Autofilter to solve the given real world scenario.</li></ul>	

**Assessment Details (both CIE and SEE)**

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks out of 50) and for the SEE minimum passing mark is 35% of the maximum marks (18 out of 50 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/course if the student secures a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together

**Continuous Internal Evaluation (CIE):**

CIE marks for the practical course are **50 Marks**.

The split-up of CIE marks for record/ journal and test are in the ratio **60:40**.

- Each experiment is to be evaluated for conduction with an observation sheet and record write-up. Rubrics for the evaluation of the journal/write-up for hardware/software experiments are designed by the faculty who is handling the laboratory session and are made known to students at the beginning of the practical session.
- Record should contain all the specified experiments in the syllabus and each experiment write-up will be evaluated for 10 marks.
- Total marks scored by the students are scaled down to **30 marks** (60% of maximum marks).
- Weightage to be given for neatness and submission of record/write-up on time.
- Department shall conduct a test of 100 marks after the completion of all the experiments listed in the syllabus.
- In a test, test write-up, conduction of experiment, acceptable result, and procedural knowledge will carry a weightage of 60% and the rest 40% for viva-voce.
- The suitable rubrics can be designed to evaluate each student's performance and learning ability.
- The marks scored shall be scaled down to **20 marks** (40% of the maximum marks).

The Sum of scaled-down marks scored in the report write-up/journal and marks of a test is the total CIE marks scored by the student.

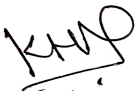
**Semester End Evaluation (SEE):**

- SEE marks for the practical course are 50 Marks.
- SEE shall be conducted jointly by the two examiners of the same institute, examiners are appointed by the Head of the Institute.
- The examination schedule and names of examiners are informed to the university before the conduction of the examination. These practical examinations are to be conducted between the schedule mentioned in the academic calendar of the University.

- All laboratory experiments are to be included for practical examination.
  - (Rubrics) Breakup of marks and the instructions printed on the cover page of the answer script to be strictly adhered to by the examiners. **OR** based on the course requirement evaluation rubrics shall be decided jointly by examiners.
  - Students can pick one question (experiment) from the questions lot prepared by the examiners jointly.
  - Evaluation of test write-up/ conduction procedure and result/viva will be conducted jointly by examiners.
  - General rubrics suggested for SEE are mentioned here, writeup-20%, Conduction procedure and result in -60%, Viva-voce 20% of maximum marks. SEE for practical shall be evaluated for 100 marks and scored marks shall be scaled down to 50 marks (however, based on course type, rubrics shall be decided by the examiners)
  - Change of experiment is allowed only once and 15% of Marks allotted to the procedure part are to be made zero.
- The minimum duration of SEE is 02 hours

**Suggested Learning Resources:**

- **Berk & Carey** - Data Analysis with Microsoft® Excel: Updated for Office 2007®, Third Edition, © 2010 Brooks/Cole, Cengage Learning, ISBN-13: 978-0-495-39178-4
- **Wayne L. Winston** - Microsoft Excel 2019: Data Analysis And Business Modeling, PHI, ISBN: 9789389347180
- **Aryan Gupta** - Data Analysis in Excel: The Best Guide. (<https://www.simplilearn.com/tutorials/excel-tutorial/data-analysis-excel>)

  
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