Laboratory Manual

for

e-Business Systems Lab.

(MCA-265)

MCA - III Semester

Compiled by:

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List of Abbreviations

BTL	Bloom's Taxonomy Level
CE	Communication Efficacy
CICP	Conduct Investigations of Complex Computing Problems
CK	Computational Knowledge
CO	Course Outcome
DAC	Departmental Advisory Committee
DDS	Design and Development of Solutions
I&E	Innovation and Entrepreneurship
I&T	Individual & Team Work
IQAC	Internal Quality Assurance Cell
LLL	Life-Long Learning
MTU	Modern Tool Usage
PA	Problem Analysis
PE	Professional Ethics
PEO	Programme Educational Objective
PMF	Project Management and Finance
PO	Programme Outcome
SEC	Societal and Envoirnmental Concern
SED	Stream Editor

Declaration

Department	:	Department of Computer Science and Applications
Course, Year and the Semester to which Lab is offered	:	MCA - II Year, III Semester
Name of the Lab Course	:	e-Business Systems Lab.
Course Code	:	MCA-265 (Lab. based on Core Elective – II)
Version No.	:	
Name of Course/Lab Teacher	:	Dr. Sunil Pratap Singh
Laboratory Manual Committee	:	1. Dr. Ritika Wason 2. Prof. P. S. Grover 3. Mr. Amit Sharma, Alumni & Industry Expert 4. Dr. Sunil Pratap Singh
Approved by	:	DAC
Approved by	:	IQAC

Signature (Course Teacher)	**Signature** (Head of Department)	**Signature** (IQAC Coordinator)

1. Vision of the Department

To become a centre of excellence in the field of Computer Science and Applications to produce quality professionals in software development.

2. Mission of the Department

M1 To produce quality software professionals as per global industry standards.

M2 To foster innovation, entrepreneurial skills, research capabilities and bring all-round development amongst budding professionals.

M3 To promote analytical and collaborative life-long learning skills, among students and faculty members.

M4 To inculcate strong ethical values and professional behaviour while giving equal emphasis to social commitment and nation building.

3. Programme Educational Objectives (PEOs)

The PEO's for the MCA programme are as follows:

PEO1 Exhibit professional competencies and knowledge for being a successful technocrat.

PEO2 Adopt creative and innovative practices to solve real-life complex problems.

PEO3 Be a lifelong learner and contribute effectively to the betterment of the society.

PEO4 Be effective and inspiring leader for fellow professionals and face the challenges of the rapidly changing multi-dimensional, contemporary world.

4. Programme Objectives (POs)

PO1: Computational Knowledge (CK)

Demonstrate competencies in fundamentals of computing, computing specialisation, mathematics, and domain knowledge suitable for the computing specialisation to the abstraction and conceptualisation of computing models from defined problems and requirements.

PO2: Problem Analysis (PA)

Identify, formulate, and analyze complex real-life problems in order to arrive at computationally viable conclusions using fundamentals of mathematics, computer sciences, management and relevant domain disciplines.

PO3: Design and Development of Solutions (DDS)

Design efficient solutions for complex, real-world problems to design systems, components or processes that meet the specifications with suitable consideration to public health, and safety, cultural, societal, and environmental considerations.

PO4: Conduct Investigations of Complex Computing Problems (CICP)

Ability to research, analyze and investigate complex computing problems through design of experiments, analysis and interpretation of data, and synthesis of the information to arrive at valid conclusions.

PO5: Modern Tool Usage (MTU)

Create, select, adapt and apply appropriate technologies and tools to a wide range of computational activities while understanding their limitations.

PO6: Professional Ethics (PE)

Ability to perform professional practices in an ethical way, keeping in mind cyber regulations & laws, responsibilities, and norms of professional computing practices.

PO7: Life-Long Learning (LLL)

Ability to engage in independent learning for continuous self-development as a computing professional.

PO8: Project Management and Finance (PMF)

Ability to apply knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments.

PO9: Communication Efficacy (CE)

Ability to effectively communicate with the technical community, and with society at large, about complex computing activities by being able to understand and write effective reports, design documentation, make effective presentations, with the capability of giving and taking clear instructions.

PO10: Societal and Envoirnmental Concern (SEC)

Ability to recognize and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities applicable to professional computing practices.

PO11: Individual & Team Work (I&T)

Ability to work in multi-disciplinary team collaboration both as a member and leader as per need.

PO12: Innovation and Entrepreneurship (I&E)

Ability to apply innovation to track a suitable opportunity to create value and wealth for the betterment of the individual and society at large.

5. Institutional Policy for Students' Conduct

The following guidelines shall be followed:-

5.1 All the students in their introductory Lab. shall be assigned a system, which shall be their workplace for the complete semester. Students can store records of all their Lab. assignments on their individual workstations.

5.2 Introductory Lab. shall include an introduction to the appropriate software/tool, followed by a basic Introductory Assignment having Practice Questions. All the students are expected to complete this assignment within a week time, as the same shall be assessed through a lab. test.

5.3 Each week, the instructor, in parallel to respective topics covered in the theory lecture, shall assign a set of practical problems to the students. The problems in these assignments shall be divided into two parts. The first set of problems shall be compulsory for all the students and its record need to be maintained in the Prcatical File, having prescribed format, as given in Appendix - A. All the students should get the Practical File checked and signed, weekly, by the respective teacher. The second set of problems is Advanced Problems and shall be optional. Student may solve these advanced problems for their further practice.

5.4 Cellular phones, pagers, CD players, radios and similar devices are prohibited in the classrooms, laboratories and examination halls.

5.5 Laptops, Tablets may be used in lectures/labs for the purpose of taking notes or working on team-projects.

5.6 The internal practical exam shall be conducted towards the end of the semester and shall include the complete set of lab exercises conducted as per syllabus. However, students shall be assessed on continuos basis through overall performances in regular lab. tests, both announced and surprise and viva-voce.

5.7 The respective faculty shall prepare and submit sufficient number of practical sets of computing problems to the Dean (Examinations), atleast two

weeks prior to the actual exam. It is the responsibility of the faculty to ensure that a set should not be repeated for more than 5 students in a given batch.

5.8 The internal practical exam shall be of 3 hours duration where the student shall be expected to implement solutions to his/her assigned set of problems on appropriate software tools in the lab.

5.9 Once implemented, student shall also appropriately document code implemented in the assigned answer sheets, which shall be submitted at the end of the examination. All the students shall also appear for viva-voce examination during the exam.

5.10 Co-operate, collaborate and explore for the best individual learning outcomes but copying or entering into the act of plagiarism is strictly prohibited.

6. Learning Outcomes of Laboratory Work

The student shall demonstrate the ability to:

- Verify and Implement the concepts and theory learnt in class.
- Code and use Software Tools to solve problems and present their optimal solutions.
- Apply numerical/statistical formulas for solving problems/questions.
- Develop and apply critical thinking skills.
- Design and present Lab as well as project reports.
- Apply appropriate methods for the analysis of raw data.
- Perform logical troubleshooting as and when required.
- Work effectively as a member of a team in varying roles as need be.
- Communicate effectively, both oral and written.
- Cultivate ethics, social empathy, creativity and entrepreneurial mindset.

7. Course/Lab Outcomes (COs)

CO1 Model an appropriate business model for a proposed website. [BTL3]

CO2 Distinguish varied online payment methods. [BTL4]

CO3 Assess varied e-commerce software. [BTL5]

CO4 Create an e-commerce website and compare it with similar existing websites. [BTL6]

8. Mapping of CO's with PO's

Table 1: Mapping of CO's with PO's

PO/CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓	✓		✓							
CO2	✓	✓	✓	✓	✓							
CO3	✓	✓	✓	✓	✓	✓				✓		
CO4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

9. Course/Lab Description

Course (Lab) Title	:	e-Business Systems Lab.
Course (Lab) Code	:	MCA-265 (Lab. based on Core Elective – II)
Credits	:	01
Pre-requisites	:	Basics of Computers, Basics of Online Applications, Business Concepts
Academic Session	:	July to December
Contact Hours/Week	:	02 (01 Labs of 02 Hours/Week)
Internal Assessment	:	40 Marks
External Assessment	:	60 Marks

10. Grading Policy

Item	Points	Marks	Remarks
Weekly Lab Exercises including Practical Files	10	10	Closed Book/Open Book
Internal End-Term Practical Examination	20	10	Closed Book
Viva-Voce	20	20	Closed Book
External End-Term Examinations	60	60	Closed Book (conducted and evaluated by the University)
	Total	**100**	

11. Lesson Plan

Week No.	Lab No.	Topics/Concepts to be Covered
1.	1.	E-Commerce Portals
2.	2.	E-Commerce Models
3.	3.	Electronic Payment System
4.	4.	Electronic Fund Transfer
5.	5.	Web Based Tools and Software for E-Commerce
6.	6.	Buffer Reserved for Revision
7.	7.	Development of a New Portal of any other relevant E-Commerce Portal
8.	8.	Development of a New Portal of any other relevant E-Commerce Portal (continued)
9.	9.	Development of a New Portal of any other relevant E-Commerce Portal (continued)
10.	10.	Development of a New Portal of any other relevant E-Commerce Portal (continued)
11.	11.	Development of a New Portal of any other relevant E-Commerce Portal (continued)
12.	12.	Buffer Reserved for Revision

12. Lab Exercises/Problems

P1 Suppose you want to develop an educational website to offer question papers of examinations of various courses, plan an appropriate business model through which revenue can be generated. [CO1/BTL3]

P2 Illustrate the working of following payment methods: [CO2/BTL4]

a) Debit card
b) Digital wallet
c) Direct debit
d) UPI
e) Net banking

P3 Access and compare the following e-commerce portals in terms of their business models and revenue models: [CO3/BTL3]

a) www.indiamart.com and www.amazon.in
b) www.bestprice.in and www.flipkart.com
c) www.policybazaar.com and www.bookmyshow.com
d) www.makemytrip.com and www.carwale.com

P4 Assess the following e-commerce software/platforms for their merits and demerits: [CO3/BTL5]

a) WooCommerce
b) Shopify
c) Magento
d) BigCommerce
e) Ecwid
f) Salesforce Commerce Cloud
g) Oracle Commerce
h) Drupal Commerce.

P5 Create a news portal to displays different categories of news (Sports, Political, Bollywood, Healthcare, etc.) in different languages (Hindi, English, Punjabi, etc.) by implementing any one of the following revenue models:

- Fee-for-Content Revenue Model
- Advertising-Supported Revenue Model

The portal should demonstrate the working of administrator (managing news and users) and user (subscribing news of his/her interest and read/comment news). If fee-for-content revenue model is implemented, the subscription fee may be different for different type categories of news. If advertising-supported revenue model is implemented, the advertisement display price of different ads may vary for different categories of news. [CO4/BTL6].

Appendix – A: Index of Lab File

Week No.	Lab. Ex. No.	Detailed Description of the Lab Exercise	Outcome Mapping		Page No./Link of Online Document	Signature of Teacher with Date
			CO	BTL		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Note: *The students should use header and footer, mentioning their roll number & name in header and page number in footer.*