

13. Practical based on Divide and Conquer Technique-Binary Search, Tower of Hanoi
14. Implementation of Dynamic Programming- LCS, Regular Expression Matching
15. Practical based on backtracking- N Queen's problems

Course Code: ITC11
Course Name: Mini Project

Credit Scheme			Evaluation Scheme				
Lecture	Practical	Credit	Internal			External	Total
			Written	Practical	Tutorial		
-	10 Hrs./Week	5	-	75	-	50	125

Course Description:

A mini project is an assignment that the student needs to complete at the end of every semester to strengthen the understanding of fundamentals through effective application of the subjects learnt.

Course Outcomes:

Student will be able to

CO1: Create working project using tools and techniques learnt in this semester (Create)

Course Structure:

Guidelines for Mini Project

1. Students are expected to undertake one mini project starting from first semester till third semester.
2. The student may take up the mini project in first semester based on the courses learnt in that semester and for every next semester the mini project may be based on the courses learnt in the current semester along with all the subjects learnt in earlier semesters.
3. The student may take up the project individually or in group. However, if project is done in group, each student must be given a responsibility for distinct modules.
4. Selected project/module must have relevant scope as per the marks assigned and must be carried out in the Institute.
5. Internal guide should monitor and evaluate the progress of the project on individual basis through handwritten workbook (Project Diary) maintained by students containing various project milestones with learnings and remarks from internal guide for concurrent evaluation.
6. The Project Synopsis should contain an Introduction to Project clearly stating the project scope in detail justifying enough scope for 125 marks. The project work will carry 75 marks for internal assessment and 50 marks for external assessment.
7. Students are expected to show working demo of the project during final evaluation.
8. **Students are expected to upload mini-project on GITHUB as project repository of the institution.**
9. Students are expected to submit the soft copy of mini project report as a part of final submission.

10. The project will be assessed internally as well as externally by the examiners appointed by University. University may appoint Industry Experts as an external examiner

Course Code: ITC21

Course Name: Mini Project

Credit Scheme			Evaluation Scheme				
Lecture	Practical	Credit	Internal			External	Total
			Written	Practical	Tutorial		
-	10 Hrs./Week	5	-	75	-	50	125

Course Description:

A mini project is an assignment that the student needs to complete at the end of every semester to strengthen the understanding of fundamentals through effective application of the subjects learnt.

Course Outcomes:

Student will be able to

CO1: Create working project using tools and techniques learnt in this semester (Create)

Course Structure:

Guidelines for Mini Project

1. Students are expected to undertake one mini project starting from first semester till third semester.
2. The student may take up the mini project in first semester based on the courses learnt in that semester and for every next semester the mini project may be based on the courses learnt in the current semester along with all the subjects learnt in earlier semesters.
3. The student may take up the project individually or in group. However, if project is done in group, each student must be given a responsibility for distinct modules.
4. Selected project/module must have relevant scope as per the marks assigned and must be carried out in the Institute.
5. Internal guide should monitor and evaluate the progress of the project on individual basis through handwritten workbook (Project Diary) maintained by students containing various project milestones with learnings and remarks from internal guide for concurrent evaluation.
6. The Project Synopsis should contain an Introduction to Project clearly stating the project scope in detail justifying enough scope for 125 marks. The project work will carry 75 marks for internal assessment and 50 marks for external assessment.
7. Students are expected to show working demo of the project during final evaluation.
8. **Students are expected to upload mini-project on GITHUB as project repository of the institution.**
9. Students are expected to submit the soft copy of mini project report as a part of final submission.
10. The project will be assessed internally as well as externally by the examiners appointed by University. University may appoint Industry Experts as an external examiner
- 11.

Course Code: ITC31

Course Name: Mini Project

Credit Scheme			Evaluation Scheme				
Lecture	Practical	Credit	Internal			External	Total
			Written	Practical	Tutorial		
-	10 Hrs./Week	5	-	75	-	50	125

Course Description:

A mini project is an assignment that the student needs to complete at the end of every semester to strengthen the understanding of fundamentals through effective application of the subjects learnt.

Course Outcomes:

Student will be able to

CO1: Create working project using tools and techniques learnt in this semester
(Create)

Course Structure:

Guidelines for Mini Project

1. Students are expected to undertake one mini project starting from first semester till third semester.
2. The student may take up the mini project in first semester based on the courses learnt in that semester and for every next semester the mini project may be based on the courses learnt in the current semester along with all the subjects learnt in earlier semesters.
3. The student may take up the project individually or in group. However, if project is done in group, each student must be given a responsibility for distinct modules.
4. Selected project/module must have relevant scope as per the marks assigned and must be carried out in the Institute.
5. Internal guide should monitor and evaluate the progress of the project on individual basis through handwritten workbook (Project Diary) maintained by students containing various project milestones with learnings and remarks from internal guide for concurrent evaluation.
6. The Project Synopsis should contain an Introduction to Project clearly stating the project scope in detail justifying enough scope for 125 marks. The project work will carry 75 marks for internal assessment and 50 marks for external assessment.
7. Students are expected to show working demo of the project during final evaluation.
- 8. Students are expected to upload mini-project on GITHUB as project repository of the institution.**
9. Students are expected to submit the soft copy of mini project report as a part of final submission.
10. The project will be assessed internally as well as externally by the examiners appointed by University. University may appoint Industry Experts as an external examiner

Course Code: ITC41
Course Name: Project

Credit Scheme			Evaluation Scheme				
Lecture	Practical	Credit	Internal			External	Total
			Written	Practical	Tutorial		
-	40 Hrs./Week	22	-	300	-	250	550

Course Description:

A project is an assignment that the student needs to complete at the end of semester IV to strengthen the understanding of fundamentals through effective application of the subjects learnt.

Course Outcomes:

Student will be able to

CO1: Create working project using tools and techniques learnt in the programme (Create)

Course Structure:

The project is an outcome of technical skills and domain knowledge acquired by the students during the program. Students demonstrate problem solving skills, analytical ability, logical thinking, communication skills and team work during the course of the project. The project can be implementation of a research work published in any reputed journal.

1. The project may be done individually or in groups. However, if project is done in groups, each student must be given a responsibility for distinct modules.
2. Selected project/module must have relevant scope as per the marks assigned and can be carried out in the Institute or outside with prior permission of the Institute.
3. Internal guide should monitor and evaluate the progress of the project on individual basis through handwritten workbook maintained by students containing various project milestones with learnings and remarks from internal guide for concurrent evaluation.
4. The Semester IV project should be having sufficient scope for 400 marks. The project work will carry 300 marks for internal assessment and 250 marks for external assessment.
5. Students are expected to show working demo of the project during final evaluation in semester IV.
6. The project report should be prepared as per the University prescribed format with all the chapters mentioned in project guidelines. And it should be printed on back-to-back pages (one copy) which should be signed by the internal guide and the Director of the Institute. A client (colleges, Non IT organization, and IT organization) certificate should be attached to prove the authenticity of the project work done.
7. The project will be assessed internally as well as externally by the examiners appointed by the institutions and University.

Type of Projects

1. Application Development

The students are advised to choose a project that involves window-based development, web-based development, mobile-based development, projects based on machine learning. Analysis and interpretation of any company specific data is not permitted.

2. Embedded Systems / IoT

A project should be developed and implemented for application specific system after thorough investigation of the latest development in the field of electronics or communication to facilitate their efficient operation. The Real Time Operating System (RTOS) or open source platform can be used to develop embedded applications such as Robotics, Microcontroller / Microprocessor based projects etc. An IOT project can be used to design products for reliability and security using simple electronics concepts and integrating with a cloud platform to get the data real-time and make some operational analysis. It has to use efficient algorithms for strong authentication and security protocols and disable non-essential services.

Few examples of IoT applications

Smart home, Health care applications, Smart waste management, Activity Tracker etc.

3. ETL Projects

Extract, transform, load (ETL) is the process of integrating the data from one or more sources. It is expected from the student that he should demonstrate the entire ETL process with reference to any domain like finance, banking, insurance, retail etc.

Data extraction consists of extracting the data from homogeneous or heterogeneous sources and transforming it into a proper format using data cleansing. The data can be finally loaded into a final target database such as operational data base, a data mart or data warehouse. This data can be further used for the purpose of querying and analyzing.

4. Research Projects

The research project will be able to demonstrate the skills of working scientifically, and through the project the students will be able to understand how to do a literature review, and how to appraise the literature to address questions. To explore an area of interest (develop some expertise and a deeper understanding of a topic). Understand the tools to critically and thoughtfully appraise problems which are faced every day; to learn communicate scientific research in verbal presentations and written form. As an example, the students can identify any problem, by observation or through survey to understand the problem in depth and propose the solution by applying the research methodology.

Project Guidelines:

1. Application Development Project

Chapter No		Details
1		Introduction
	1.1	Company Profile / Institute Profile / Client Profile
	1.2	Abstract
	1.3	Existing System and Need for System
	1.4	Scope of System
	1.5	Operating Environment - Hardware and Software
	1.6	Brief Description of Technology Used 1.6.1 Operating systems used (Windows or Unix) 1.6.2 RDBMS/No Sql used to build database (mysql/ oracle, Teradata, etc.)
2		Proposed System
	2.1	Study of Similar Systems (If required research paper can be included)
	2.2	Feasibility Study
	2.3	Objectives of Proposed System
	2.4	Users of System
3		Analysis and Design
	3.1	System Requirements (Functional and Non-Functional requirements)
	3.2	Entity Relationship Diagram (ERD)
	3.3	Table Structure
	3.4	Use Case Diagrams
	3.5	Class Diagram
	3.6	Activity Diagram
	3.7	Deployment Diagram
	3.8	Module Hierarchy Diagram
	3.9	Sample Input and Output Screens (Screens must have valid data. All reports must have at-least 5 valid records.)
4		Coding
	4.1	Algorithms
	4.2	Code snippets
5		Testing
	5.1	Test Strategy
	5.2	Unit Test Plan
	5.3	Acceptance Test Plan
	5.4	Test Case / Test Script
	5.5	Defect report / Test Log
6		Limitations of Proposed System
7		Proposed Enhancements
8		Conclusion

9		Bibliography
10		Publication / Competition certificates
11		Appendix – Cost sheet , Data sheet
12		User Manual (All screens with proper description/purpose Details about validations related to data to be entered.)

2. Embedded Systems / IoT Project

Chapter No		Details
1		Introduction
	1.1	Company Profile / Institute Profile / Client Profile
	1.2	Abstract
	1.3	Existing System and Need for System
	1.4	Scope of System
	1.5	Operating Environment - Hardware and Software
	1.6	Brief Description of Technology Used 1.6.1 Operating systems used (Windows or Unix) 1.6.2 Database (if applicable)
2		Proposed System
	2.1	Study of Similar Systems (If required research paper can be included)
	2.2	Feasibility Study
	2.3	Objectives of Proposed System
	2.4	Users of System
3		Analysis and Design
	3.1	Technical requirements – H/W , S/W
	3.2	System Architecture / Block Diagram
	3.3	System Hardware Details
	3.4	Pin Diagrams
	3.5	Interface diagrams
	3.6	Design Sequence
	3.7	System Software Details
	3.8	Process / System Flow chart
4		Coding
	4.1	Algorithms
	4.2	Code snippets (if applicable)
5		Testing
	5.1	Results & reports
	5.2	Test cases
	5.3	Acceptance Testing
	5.4	Test reports in IEEE format
6		Limitations of Proposed System
7		Proposed Enhancements

8		Conclusion
9		Bibliography
10		Publication / Competition certificates
11		Appendix – Cost sheet , Data sheet
12		User Manual (All screens with proper description/purpose Details about validations related to data to be entered.)

3. ETL Projects

Chapter No		Details
1		Introduction
	1.1	Company Profile / Institute Profile / Client Profile
	1.2	Existing System functionality (Source System for which the ANALYTICS is being developed)
	1.3	Business process understanding and specifications 1.3.1 Business Requirement Specifications: 1.3.1.1 The o/p from BR Analysis are BRS Business Requirement Specifications (Business specific Rules to be mentioned here from analysis point of view) 1.3.1.2 Identify the dimensions, required attributes, measures, filter conditions, adjustments for KPIs going to be used in the Target system and its availability in the Source System. If any gaps suggest remediation of gaps 1.3.2 Business Rules Collection 1.3.3 Identify the Key Performance Indicator (specified by client) 1.3.4 Establish the User Acceptance Criteria
	1.4	Scope of the project
	1.5	Operating Environment - Hardware & Software, Description of Tools / Technology to be used in the Target system 1.5.1.1 Operating systems used (Windows or Unix) 1.5.1.2 RDBMS/NoSql used to build database (mysql/ oracle, Teradata, etc.) 1.5.1.3 ETL tools used (Talend/Informatica, Datastage etc) 1.5.1.4 OLAP/ Data mining/ machine learning/ analytics tools used (Python/ Cognos, BO, etc.) 1.5.1.5 Data visualization tools (power BI / Tableau)
2		Proposed System
	2.1	Creating multiple ETL strategies - Specifying metadata details, identifying heterogeneous architectures, processes for I/O only for ETL, scrapping , identifying the volatilities in the channels , designing strategies in the context of the business and existing ERP
	2.2	Comparing them in the context of selected business system (as per the business requirements)
	2.3	Suggesting optimum solution (process)
3		Analysis and Design
	3.1	Use Case Diagram
	3.2	Activity diagram to demonstrate Process flow (execution of ETL process)

	3.3	Design of Target system (Elaborate the tiers of DW architecture in the Target System)
	3.4	Database schema / Table specifications of Target system
	3.5	Details of Source & Targets of mapping in the database
	3.6	Details of Load (Full/Incremental etc.)
	3.7	Design of ETL schema/strategy
4	4.1	Design of strategy for Visualization 4.1.1 Visualizations in support of comparison of performance of various ETL strategies 4.1.2 Data visualization using different techniques (if any)
5		Drawbacks and Limitations Proposed Enhancements
6		Conclusion

4. Research Projects

Research projects especially are designed to gain knowledge about some specified area and the deliverable is that knowledge gained, usually encapsulated in some form of report.

Students are expected to contribute something new to academic or practical knowledge in their research area—something original that is more than the accepted knowledge.

Completing a Research Project as part of your coursework is an opportunity to:

- learn to read and interpret other people’s research critically by doing your own. This gives you an insight into the effects of practical difficulties and theoretical debates on published research
- develop and apply the knowledge that you have learnt in 4 semesters of your curriculum.
- submit a paper for peer-reviewed publication. (If successful, this will give a boost to your c.v.) If you wish to enroll in a research degree such as PhD, a research project as part of your coursework will assist the committee evaluating your application in assessing whether you are ready to do independent research.

Research Index

1. Title page
2. Acknowledgements

You should acknowledge the assistance given to you by your supervisors, and any other person or organization that has helped you in the planning, conduct, analysis or reporting of your project.

3. Abstract

This is a synopsis of your study question, aims and objectives, background literature, methods, results, key conclusions and recommendations. This should be 250–300 words long and should be very clear and easy to follow.

4. Introduction

In this section of your report you introduce the subject, provide the background to the topic or problem, outline the study question (or problem or study hypothesis), and outline the aims and objectives of your study.

5. Literature review

This is a review of the literature on the topic or problem you are studying. It should include a review of any other studies or projects similar or relevant to yours, and perhaps a review of the literature on the method you have chosen if your project tests a new method of research or analysis.

6. Methods

This section includes the methodology of your research. It will cover such issues as:
In case of Computer Management Research :

- Study design
- Study population, sampling frame and numbers, sampling method
- survey design
- survey or data collection instruments
- protocol for obtaining data
- ethical issues and how they are addressed
- information letters, consent forms
- data management and analysis methods
- statistical analysis and tests
- In case of Computer Science Research:
 - Study design
 - System Architecture
 - Implementation
 - Experimental Implementation
 - Simulation
 - Data management and analysis methods
 - Analysis and testing

7. Results

In this section you present the results of your research. Tables, figures and graphs are an excellent means of presenting this sort of information. All tables, figures and graphs, should be numbered consecutively throughout the whole report, and labelled with a clear and concise descriptive title.

8. Discussion

In this section you interpret your results and discuss their implications, with reference to other published research. Any limitations in your research methodology should also be referred to here. Examiners expect you to acknowledge these limitations as an integral part of your evaluation of your project.

9. Conclusion

This section summarizes the key results and the conclusions that you can draw from these results. It also needs to reflect what your initial project aims and objectives were.

10. Recommendations

It is good research practice to make recommendations or to suggest directions for further research or actions as a result of your project findings.

11. References

This is a list of all the references and sources you used in your literature review, methodology and discussion. This includes books, journal articles, abstracts, conference and symposium papers, media articles, and any form of published literature or comment.

12. Appendices

This section may contain copies of any questionnaires if any or evaluation instruments used covering letters, participant information and ethics approvals, or additional explanations.

5. It is NOT MANDATORY for a learner to opt for Alternative Study Credit Courses. However, Faculty members may advise a student to enroll for Alternative Study Credit Course(s) after a methodical assessment of the relevant competencies of the student.
6. Institutes may stipulate additional criteria for students desirous to take up Alternative Study Credit Courses.
7. **A MINIMUM of 60% of the total credits earned by a learner through ASCC shall either be from MOOCs or from Professional Certification Programmes.**
8. Thus a learner may skip all Generic Elective (GE - IL) courses and skip all Subject Elective (SE - IL) courses and earn the required 22 credits entirely through ASCC.
9. The same TYPE of ASCC can be opted for multiple number of times. Norms for the same are prescribed in the relevant section later in this syllabus document. For e.g. A student may undertake 11 "Professional Certification Programs" and earn 22 credits or complete 11 MOOCs and earn 22 Credits.
10. ASCC shall be executed in online study mode / field work or project mode / certification mode.
11. A faculty guide shall be assigned for such courses. The faculty shall oversee the progress of the learner as well as evaluate the learner for 50 marks / 2 credits.
12. The learner shall select the ASCC that he/she desires to opt for and submit an outline of the proposed study relevant to the course. The faculty guide shall approve the proposal after considering the nature of the work, learning effort required, desired outcomes and comprehensive coverage of the topic.
13. There is no defined syllabus for the ASCC courses. Institutes shall define the syllabus and announce the same on the website.
14. Since ASCC is a guided self study course 40 - 45 hours of work shall be equivalent to one credit. The faculty shall oversee the progress of the learner as well as evaluate the learner for 50 marks / 2 credits.
15. The start date of the ASCC such as Professional Certifications shall be after the admission date for the MBA programme and the end date of the ASCC shall be within 6 months of the start date of the ASCC, but before the completion of Sem IV.
16. The list of ASCC is provided in Annexure I.

5.7 Combination of Options: A learner may opt for any combination of earning the 22 credits assigned to Generic Elective (GE - IL) courses and Subject Elective (SE - IL) courses through

- e) Generic Elective (GE - IL) courses
- f) Subject Elective (SE - IL) courses
- g) Open Elective Courses
- h) Major + Minor specialization combination
- i) Foundation Courses
- j) Enrichment Courses
- k) Alternative Study Credit Courses

SUBJECT TO THE minimum and maximum limits of credits prescribed and, subject to institutional norms and guidelines, issued from time to time.

6.0 Summer Internship Project: At the end of Second Semester each student shall undertake a Summer Internship Project (SIP) for a **minimum of 8 weeks**. For SIP, 1 credit is equivalent to minimum 40-45 hours of effective work. SIP shall have 6 credits. It is mandatory for the student to seek advance written approval from the faculty guide and the Director of the Institute about the topic and organization before commencing the SIP.

The SIP may or may not have a Functional Focus, i.e. the student may take up a SIP in his/her intended area of specialization or in any other functional area of management. **Ideally the SIP should exhibit a cross-functional orientation.**

SIP can be carried out in a

1. Corporate Entity
2. NGO
3. SME
4. Government Undertaking
5. Cooperative Sector.

SIP may be

1. a research project – based on primary / secondary data
2. may be an operational assignment involving working by the student on a given task/assignment/project/ etc. in an organization / industry.

It is expected that the SIP shall sensitize the students to the demands of the workplace and apply conceptual knowledge in practice..

Each student shall maintain a SIP Progress Diary detailing the work carried out and the progress achieved on a daily basis. The student shall submit a written structured SIP report based on work done during this period. The student shall submit the SIP Progress Diary along with the SIP Report.

Students shall also seek a formal evaluation of their SIP from the company guide. The formal evaluation by the company guide shall comment on the nature and quantum of work undertaken by the student, the effectiveness and overall professionalism. The learning outcomes of the SIP and utility of the SIP to the host organization must be specifically highlighted in the formal evaluation by the company guide. The SIP evaluation sheet duly signed and stamped by the industry guide shall be included in the final SIP report.

The SIP report must reflect 8 weeks of work and justify the same. The SIP report should be well documented and supported by –

1. Institute's Certificate
2. Certificate by the Company
3. Formal feedback from the company guide
4. Executive Summary
5. Organization profile
6. Outline of the problem/task undertaken
7. Research methodology & data analysis (in case of research projects only)
8. Relevant activity charts, tables, graphs, diagrams, AV material, etc.
9. Learning of the student through the project
10. Contribution to the host organization
11. References in appropriate referencing styles. (APA, MLA, Harvard, Chicago Style etc.)

The completion of the SIP shall be certified by the respective Faculty Guide & approved by the Director of the Institute. The external organization (Corporate / NGO/ SME/ Government Entity/ Cooperative/ etc.) shall also certify the SIP work.

The students shall submit a spiral bound copy of the SIP report by 15th September. The Institute shall conduct an internal viva-voce for evaluation of the SIP for 50 marks between 15th September to 30th September. The Panel shall comprise of two evaluators appointed by the Director of the Institute / Head of Department (for MBA departments in engineering colleges). Institutes are encouraged to involve senior alumni, industry experts, recruiters to conduct the internal viva-voce. The internal viva-voce panel shall provide a detailed assessment of the SIP report and suggest changes required, if any.

After the internal viva-voce, the student shall finalize the SIP report by incorporating all the suggestions and recommendations of the internal viva-voce panel. The internal guide shall then issue the Institute's Certificate to the student.

The student shall submit TWO hard copies & one soft copy (CD) of the project report before 30th October in Sem III. One hard copy of the SIP report is to be returned to the student by the Institute after the External Viva-Voce. In the interest of environmental considerations, students are encouraged to print their project reports on both faces of the paper. Spiral bound copies may be accepted.

There shall be an external viva-voce for the SIP for 50 marks. The external viva-voce shall be conducted after the theory exam of Semester III.

The Internal & the External viva-voce shall evaluate the SIP based on:

1. **Clear and concise objectives**
2. **Clear methodology, articulated using technical terms indicating all steps and tools**
3. **Citation of substantial current and good quality literature**
4. **Application of concepts learned in Sem I and II**
5. **Understanding of the organization and business environment**
6. **Benchmarks used / Assumptions made**
7. **Technical Writing & Documentation Skills**
8. **Interpretation of results and justification thereof and validity of the results presented**
9. **Utility of the project to the organization**
10. **Comprehensiveness and stakeholder relevance of the learning experience**

Copies of SIP report and records of evaluation shall be maintained by the Institute for a period of 3 academic years.

7.0 Formative Assessment (FA) / Concurrent Assessment (CA):

3. Technical Communication, Anderson, P.V, Thomson Wadsworth, New Delhi
4. The Oxford Guide to Writing and Speaking, John Seely, Oxford University Press, New Delhi
5. Dictionary of Common Errors, Turton, N.D and Heaton, J.B, Addison Wesley Longman Ltd.

Semester I		114 - Enterprise Analysis - Desk Research
2 Credits	LTP: 0:3:1	Generic Elective – Institute Level

Course Outcomes: On successful completion of the course the learner will be able to

CO#	COGNITIVE ABILITIES	COURSE OUTCOMES
CO114.1	REMEMBERING	DESCRIBE the key historical, organizational, market related, financial, governance, leadership and social responsibility dimensions of a real world business organization.
CO114.2	UNDERSTANDING	SUMMARIZE the regional, national and global footprint of a real world business organization.
CO114.3	APPLYING	DEMONSTRATE the use of secondary – offline and online resources to profile a real world business organization.
CO114.4	ANALYSING	ANALYSE, using tables and charts, the trends in market standing and financial performance of a real world business organization over the last 5 years.
CO114.5	EVALUATING	COMPOSE a succinct summary of future plans of a real world business organization the company website, shareholders reports and other information available in the public domain.
CO114.6	CREATING	IMAGINE the key challenges and opportunities for a real world business organization in the immediate future (1 to 3 years).

1. **Enterprise History & Background:** Establishment, Original & Current Promoters, Business Group or Business Family to which it belongs, Vision-Mission-Philosophy – Values-Quality Policy, Brief profiles of the Chairman, CEO, MD, Members of Board of Directors along with their career highlights CSR Initiatives, Technical and other collaborations if any, Recent Mergers and Acquisitions, if any. **(6)**
2. **Organization :** Organization Structure, Geographical (domestic and global) foot print – at the time of inception and spread over the years, company’s current head quarter worldwide as well as head quarter / corporate office in India, Manufacturing /Service locations Indian and major worldwide, Certifications if any - ISO / EMS / FDA / CMMI , etc. Online presence. Initiatives towards gender diversity, Initiatives towards social inclusion, Initiatives towards environment conservation. Current Talent needs. Key highlights of the company’s website. **(6)**
3. **Markets:** Major Customers, customer segments, Products, Product lines, Major Brands, Market Share – nationally, region wise, product wise, Advertising Agency, Advertising Punch Line/Slogan, Logo, Key Alliances in the past 5 years & impact. Mergers & Acquisitions, if any. Technological developments. Disruptive innovations affecting the organization. Labour unrest if any – reasons thereof and impact. Emerging potential competition through first generation entrepreneurs or global / local players. **(6)**
4. **Financials:** Data to be studied, tabulated, graphically depicted, analyzed and presented for last 5 years for the Revenues, Profitability, Market Capitalization, Segmented Revenues, Auditors. Listing status & Scrip Codes – BSE and NSE, Global Listings on International Stock Markets, Share Price Face Value, Current Market Value, Annual High Low Figures, P/E Ratio, Shareholding Pattern. **(6)**
5. **Governance:** Philosophy, Action taken by SEBI if any, Involvement in Scams, Insider Trading Issues, Standard & Poor’s Corporate Governance Scores, CRISIL Rating. Major Awards and Achievements of the Organization in the last 5 years. Forward looking statements of the top management. **(6)**

Note:

1. Students should work in groups of 3 to 5 each under the guidance of a faculty.
2. Students shall carry out an indepth study of any THREE Organizations of their choice.
3. Organizations selected should demonstrate a variety across sectors, ownerships, size, and other key dimensions.
4. Students shall submit a structured detailed report.

Suggested Text Books:

1. No text books are prescribed.
2. The course has to be taught using the company annual reports and other publications, company website, social media feeds, business newspapers and business data bases such as ACE equity, CRISIL database, etc.

letters. Planning the persuasive message, common types of persuasive requests, principles of persuasive communication. Reformulating and summarizing - What is a summary? Using synonyms & antonyms, reducing phrases, guidelines for writing summaries, business summaries Comprehension: using a dictionary, grammatical precision, (phonetics), contextual clues, guidelines for comprehension. **(7)**

3. **Recruitment and employment correspondence:** Application letter, curriculum vitae, interview, references, offer of employment, job description, letter of acceptance, letter of resignation, writing routine and persuasive letters. **(6)**

4. **Internal Communications:** Memoranda, meetings - agenda and minutes, Writing memos, circulars, notices and emails. Positive and negative messages such as Letter of Appreciation, Letter of Congratulations, Warning Letter, Show Case Notice. Writing Follow up letters and reminders, Writing Sales letters, collection letters, Poster Making. Report writing - What is a report , Objectives of report, types of report, Report Planning, Types of Reports, Process, Structure and Layout, planning, Nature of Headings, Ordering of Points, Logical Sequencing, Graphs, Charts, Writing an Executive Summary, List of Illustration, Technique of writing a report, characteristics of business reports. **(6)**

5. **External Communications:** Public notices, invitations to tender bid, auction, notices, etc. Writing business proposals, Preparing Press Release and Press Notes. **(6)**

Note:

1. The entire course should be delivered in a workshop and application oriented manner. It is expected that not more than 10 to 15% of the time should be devoted to the theoretical aspect.
2. Workbooks should be prepared that comprehensively cover major situations of managerial communication and should be handed over to the students right at the beginning of the course.
3. Students should be asked to submit the completed workbooks at the end of the term.

Suggested Text Books:

1. Business Communication Today, Bovee C L et. al., Pearson Education
2. Business Communication, P.D. Chaturvedi, Pearson Education
3. Business Communication, T N Chhabra, Bhanu Ranjan, Sun India
4. Verbal and Non-Verbal Reasoning, Prakash, P, Macmillan India Ltd., New Delhi
5. Objective English, Thorpe, E, and Thorpe, S, Pearson Education, New Delhi

Suggested Reference Books:

1. Communication Skills for Effective Management, Hargie et. al., Palgrave
2. Communication for Business, Tayler Shinley, Pearson Education
3. Technical Communication, Anderson, P.V, Thomson Wadsworth, New Delhi
4. The Oxford Guide to Writing and Speaking, John Seely, Oxford University Press, New Delhi
5. Dictionary of Common Errors, Turton, N.D and Heaton, J.B, Addison Wesley Longman Ltd.

Semester II		214 - Industry Analysis - Desk Research
2 Credits	LTP: 0:3:1	Generic Elective – Institute Level

Course Outcomes: On successful completion of the course the learner will be able to

CO#	COGNITIVE ABILITIES	COURSE OUTCOMES
CO214.1	REMEMBERING	DESCRIBE the key characteristics of the players in an industry.
CO214.2	UNDERSTANDING	SUMMARIZE the management ethos and philosophy of the players in the industry.
CO214.3	APPLYING	DEMONSTRATE an understanding of the regulatory forces acting on the industry.
CO214.4	ANALYSING	COMPARE and CONTRAST, using tables and charts, the market and financial performance of the players in an industry.
CO214.5	EVALUATING	ASSESS the impact of recent developments on the industry and its key players.
CO214.6	CREATING	PREDICT the future trajectory of the evolution of the industry in the immediate future (1 to 3 years).

1. **Industry Analysis – the Basics:** Nature of the Industry, Players in the industry, Nature of competition, Market shares of top 5 & bottom 5 players, Possible Classification of players into Leaders, Challengers, Followers, Nichers, Positioning & Differentiation strategies of key players. Branding strategies, Pricing Policies, Cartelization if any and comments thereon, Capacity analysis – total capacity of the industry and break up capacity amongst key players, Current Capacity Utilization rates, Planned future capacity additions, Geographical spread of plants/facilities/capacities (Domestics as well as Global), Demand Supply balance in the industry – at global, national and regional level, Key factors affecting demand, Key supply side constraints, Professional Trade bodies of the Industry, Business

Functions carried out Online by the key players. Online presence of the players, Incremental Innovations in the industry, Disruptive Innovations in the industry. (5)

2. **Promoters & Management Ethos:** Background of promoter groups of top 5 and bottom 5 players in the industry, Management ethos and philosophy, Brief profiles of CMDs, CEOs, and key top management personnel with their career highlights, Detailed profile of one distinguished top management personnel each from any two players in the Industry, CSR policy, Corporate Governance Initiatives, Initiatives towards social inclusion, Initiatives towards environment conservation. (5)

3. **External Environment:** Controlling ministry and / or regulator if any for the Industry, Regulatory Policies at the state, national and global level and their impact on the industry as a whole with analysis of impact on top 5 players and bottom 5 players, Key National and Global issues affecting the industry, Key initiatives by the Government to promote the industry, Environmental issues, CSR initiatives, Regulatory actions against the players for e.g. Action by SEBI, Competition Commission of India, MTRP Commission, FDA, etc. against irregularities, legal violations if any. (5)

4. **Financials:** Profitability, Revenues, Margins of top 5 & bottom 5 players over the last 5 years and trends/changes therein, Sick players if any and their turnaround strategies, if any, Key factors contributing to costs, Ratio analysis of financial data for last 5 years for top 5 and bottom 5 companies in the industry. (5)

5. **Recent Developments:** Impact of key relevant provisions of the latest Fiscal policy on the industry and various players therein, Analysis of Key relevant provisions of latest Exim Policy in case of industries that are focused on Global Markets for exports or industries that have significant import components, Key Alliances in the past 5 years and their performance & impact on other players in the industry, Mergers & Acquisitions, if any. Technological developments, Labour unrest if any – reasons thereof and impact on the particular player and the industry as a whole, emerging first generation entrepreneurs, if any, in the industry, Corporate wars & feuds in the industry, if any. (5)

Note:

1. Students should work in groups of 3 to 5 each under the guidance of a faculty.
2. Students shall carry out an indepth study of any TWO industries of their choice.
3. Industries selected should be distinct from each other.
4. Students shall submit a structured detailed report.

Suggested Text Books:

1. No text books are prescribed.
2. The course has to be taught using the company annual reports and other publications, company website, social media feeds, business newspapers and business data bases such as ACE equity, CRISIL database, etc.

Semester II		215 – Entrepreneurship Lab
2 Credits	LTP: 0:3:1	Generic Elective – Institute Level

Course Outcomes: On successful completion of the course the learner will be able to

CO#	COGNITIVE ABILITIES	COURSE OUTCOMES
CO215.1	REMEMBERING	IDENTIFY a basket of potential business opportunities in the local, regional or national context.
CO215.2	UNDERSTANDING	COMPARE and CONTRAST the shortlisted business opportunities to SELECT the most suitable / promising opportunity.
CO215.3	APPLYING	DEVELOP a business model around the shortlisted business opportunity.
CO215.4	ANALYSING	FORMULATE the organization structure for the proposed start up
CO215.5	EVALUATING	EVALUATE the market potential and ESTIMATE the financing requirements for the initial 1 to 3 years after launch.
CO215.6	CREATING	CREATE a proposal for funding the start up.

This course provides a hands-on experience to the students to convert and apply theoretical and conceptual knowledge about entrepreneurship into practical entrepreneurship. During the course, students shall identify and evaluate a new business opportunity (which may be supplied by an entrepreneur or innovator in the nearby region.)

Students shall work in a group, of not more than 5 students, on a real-life business case.

Scope of the work expected:

1. Business Model Designing
2. Business Plan Designing
3. Financial Planning
4. Prototype Making
5. Test Marketing
6. Planning Commercial Launch.