M.COM., CA

Syllabus

Program Code: PCC

2023 - Onwards

MANNAR THIRUMALAI NAICKER COLLEGE

(AUTONOMOUS)

Re-accredited with "A" Grade by NAAC

PASUMALAI, MADURAI – 625 004

GUIDLINESS FOR OUTCOME BASED EDUCATION WITH CHOICE BASED CREDIT SYSTEM

(FOR PG PROGRAM FROM 2023 -2024 ONWARDS)

ELIGIBILITY CONDITION FOR ADMISSION

For admission to Post Graduate Programmers (P.G) a candidate should have passed the 3years degree course (under 10 + 2 + 3 pattern) recognized by the university as equivalent there to.

DURATION

Two years. Each year consists of 2 semesters. The duration of a semester is 90 working days.

ATTENDANCE

75% of the classes in each semester shortage of attendance can be condoned as per existing university rules.

EVALUATION PROCEDURE:

A mark Statement with CGPA = $\frac{\sum(MarksXcredits)}{\sum(Credits)}$

Where the summations are over all paper appeared up to the current semester.

Examinations: 3 hours duration.

Total marks 100 for all papers

External Internal ratio 75:25 with 2 Internal tests.

Subjects of Study

The courses offered under the PG programs belong to the following categories:

1. Core Subjects
2. Electives
3. Non Major Electives (NME)
4. Skill Enhancement course

CBCS COURSE STRUCTURE - PG COURSES

M.A. (Tamil) - M.A. (English) – M.Com. – M.Com (CA) – M.S.W. M.Sc. (Mathematics) - M.Sc. (CS) - M.Sc. (CS&IT)

Semester–I	**Credit**	**Semester-II**	**Credit**	**Semester-III**	**Credit**	**Semester–IV**	**Credit**
1.1. Core-I	4	2.1. Core-IV	4	3.1. Core-VII	4	4.1. Core-X	4
1.2 Core-II	4	2.2 Core-V	4	3.2 Core-VII	4	4.2 Core-XI	4
1.3 Core – III	4	2.3 Core – VI	4	3.3 Core – IX	4	4.3 Core – XII	4
1.4 Elective (Generic / Discipline Centric)- I	3	2.4 Elective (Generic / Discipline Centric) – III	3	3.4 Elective (Generic / Discipline Centric) – V	3	4.4 Elective (Generic / Discipline Centric) – VI	3
1.5 Elective (Generic / Discipline Centric)-II	3	2.5 Elective (Generic / Discipline Centric)-IV	3	3.5 Core Industry Module	3	4.5 Project with Viva-Voce	3
1.6Ability Enhancement Course- Soft Skill -1	2	2.6 Ability Enhancement Course - Soft Skill -2	2	3.6 Ability Enhancement Course- Soft Skill -3	2	4.6 Ability Enhancement Course- Soft Skill -4	2
Skill Enhancement Course SEC 1	2	2.7 Skill Enhancement Course SEC 2	2	3.7 Skill Enhancement Course – Term Paper and Seminar Presentation SEC 3	2	4.7 Skill Enhancement Course - Professional Competency Skill	2
				3.8 Internship/ Industrial Activity	2	4.8 Extension Activity	1
	22		**22**		**24**		**23**
						Total Credit Points	**91**

QUESTION PAPER PATTERN FOR THE CONTINUOUS INTERNAL ASSESSMENT

Note: Duration – 1 hour 30 minutes

The components for continuous internal assessment are:

Part –A

Four multiple choice questions (answer all)	4 x01= 04 Marks

Part –B

Two questions (‘either …. or ‘type)	2 x 05=10 Marks

Part –C

Two questions (‘either …. or ‘type)	2 x 08=16 Marks

Total	40 Marks

The components for continuous internal assessment are:

(40 Marks of two continuous internal assessments will be converted to 15 marks)

Two tests and their average	--15 marks
Seminar /Group discussion	--5 marks
Assignment	--5 marks

Total	25 Marks

OUTCOME BASED EDUCATION

1. Course is defined as a theory, practical or theory cum practical subject studied in a semester. For e.g. Computer Applications Management

2. Course Outcome (CO) Course outcomes are statements that describe significant and essential learning that learners have achieved, and can reliably demonstrate at the end of a course. Outcomes may be specified for each course based on its weightage.

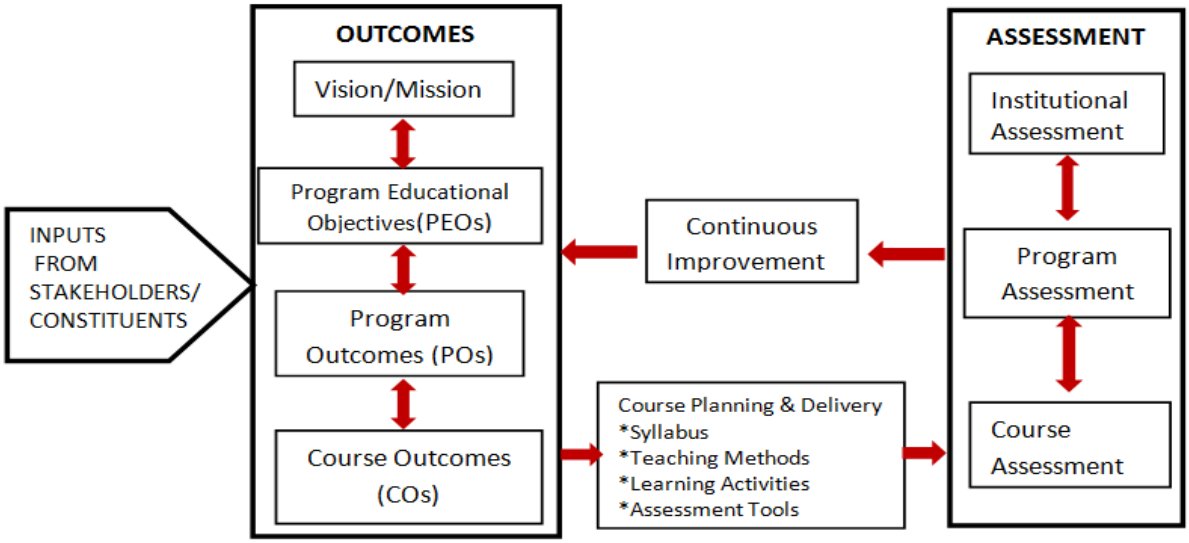
3. Program is defined as the specialization or discipline of a Degree. It is the interconnected arrangement of courses, co-curricular and extracurricular activities to accomplish predetermined objectives leading to the awarding of a degree.

4. Program Outcomes (POs) Program outcomes are narrower statements that describe what students are expected to be able to do by the time of graduation. POs are expected to be Guidelines for Outcome Based Education System 4 aligned closely with Graduate Attributes.

5. Program Educational Objectives (PEOs) of a program are the statements that describe the expected achievements of graduates in their career, and also in particular, what the graduates are expected to perform and achieve during the first few years after graduation.

6. Program Specific Outcomes (PSO) are what the students should be able to do at the time of graduation with reference to a specific discipline. Usually there are two to four PSOs for a Program.

7. Graduate Attributes (GA): The graduation attributes, are exemplars of the attributes expected of a graduate from a Program



INSTITUTIONAL VISION

To Mould the learners into accomplished individuals by providing them with a stimulus for social change through character, confidence and competence.

INSTITUTIONAL MISSION

1. Enlightening the learners on the ethical and environmental issues.

2. Extending holistic training to shape the learners in to committed and competent citizens.

3. Equipping them with soft skills for facing the competitive world.

4. Enriching their employability through career oriented courses.

5. Ensuring accessibility and opportunity to make education affordable to the underprivileged.

Highlights of the Revamped Curriculum:

- Student-centric, meeting the demands of industry & society, incorporating industrial components, hands-on training, skill enhancement modules, industrial project, project with viva-voce, exposure to entrepreneurial skills, training for competitive examinations, sustaining the quality of the core components and incorporating application oriented content wherever required.
- The Core subjects include latest developments in the education and scientific front, advanced programming packages allied with the discipline topics, practical training, devising statistical models and algorithms for providing solutions to industry / real life situations. The curriculum also facilitates peer learning with advanced statistical topics in the final semester, catering to the needs of stakeholders with research aptitude.
- The General Studies and Statistics based problem solving skills are included as mandatory components in the 'Training for Competitive Examinations' course at the final semester, a first of its kind.
- The curriculum is designed so as to strengthen the Industry-Academia interface and provide more job opportunities for the students.
- The Statistical Quality Control course is included to expose the students to real life problems and train the students on designing a mathematical model to provide solutions to the industrial problems.
- The Internship during the second year vacation will help the students gain valuable work experience that connects classroom knowledge to real world experience and to narrow down and focus on the career path.
- Project with viva-voce component in the fifth semester enables the student, application of conceptual knowledge to practical situations. The state of art technologies in conducting a Explain in a scientific and systematic way and arriving at a precise solution is ensured. Such innovative provisions of the industrial training, project and internships will give students an edge over the counterparts in the job market.
- State-of Art techniques from the streams of multi-disciplinary, cross disciplinary and inter disciplinary nature are incorporated as Elective courses, covering conventional topics to the latest DBMS and Computer software for Analytics.

MANNAR THIRUMALAI NAICKER COLLEGE (AUTONOMOUS),
MADURAI – 625 004
M. COM C.A CURRICULUM
(For the student admitted during the academic year 2023-2024 onwards)

Course Code	Title of the Course	Hrs	Credits	Maximum Marks		
				Int	Ext	Total
FIRST SEMESTER						
Part – III	**Core Courses**					
23PCCCC11	BUSINESS FINANCE	6	4	25	75	100
23PCCCC12	DIGITAL MARKETING	6	4	25	75	100
23PCCCC13	BANKING AND INSURANCE	6	4	25	75	100
Part – III	**Elective Courses**					
23PCCEC11	INTRODUCTION TO INDUSTRY 4.0	6	5	25	75	100
23PCCEC12	DATABASE MANAGEMENT SYSTEM	6	5	25	75	100
	Total	30	22	125	375	500
SECOND SEMESTER						
Part – III	**Core Courses**					
23PCCCC21	STRATEGIC COST MANAGEMENT	6	4	25	75	100
23PCCCC22	CORPORATE ACCOUNTING	6	4	25	75	100
23PCCCC23	SETTING UP OF BUSINESS ENTITIES	6	4	25	75	100
Part – III	**Elective Courses**					
23PCCEC21	DATA MINING AND DATA INTERPRETATION	6	5	25	75	100
23PCCEC22	MANAGEMENT INFORMATION SYSTEM	6	5	25	75	100
	Total	30	22	125	375	500

23PCCIN31	Internship* Industrial Activity	-	-	-	-	-

*** At the end of the semester, all the students should complete their internship during the summer vacation (April - May) for which the marks with due credits will be awarded in the third semester.**


FIRST SEMESTER

Course Name	BUSINESS FINANCE			
Course Code	23PCCCC11	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To outline the fundamental concepts in finance
- To estimate and evaluate risk in investment proposals
- To evaluate leasing as a source of finance and determine the sources of startup financing
- To examine cash and inventory management techniques
- To appraise capital budgeting techniques for MNCs

UNIT - I Introduction to Business Finance and Time vale of money 18

Business Finance: Meaning, Objectives, Scope -Time Value of money: Meaning, Causes – Compounding – Discounting – Sinking Fund Deposit Factor – Capital Recovery Factor – Multiple Compounding– Effective rat of interest – Doubling period (Rule of 69 and Rule of 72) – Practical problems.

UNIT - II Risk Management 18

Risk and Uncertainty: Meaning – Sources of Risk – Measures of Risk – Measurement of Return – General pattern of Risk and Return – Criteria for evaluating proposals to minimize Risk (Single Asset and Portfolio) – Methods of Risk Management–Hedging currency risk.

UNIT - III Startup Financing and Leasing 18

Startup Financing: Meaning, Sources, Modes (Bootstrapping, Angel investors, Venture capital fund) - Leasing: Meaning – Types of Lease Agreements – Advantages and Disadvantages of Leasing – Financial evaluation from the perspective of Lessor and Lessee.

UNIT - IV Cash, Receivable and Inventory Management 18

Cash Management: Meaning, Objectives and Importance – Cash Cycle – Minimum Operating Cash – Safety level of cash – Optimum cash balance - Receivable Management: Meaning – Credit policy – Controlling receivables: Debt collection period, Ageing schedule, Factoring – Evaluating investment in accounts receivable - Inventory Management: Meaning and Objectives – EOQ with price breaks – ABC Analysis

UNIT - V Multi National Capital Budgeting 18

Multi National Capital Budgeting: Meaning, Steps involved, Complexities, Factors to be considered– International sources of finance – Techniques to evaluate multi-national capital expenditure proposals: Discounted Pay Back Period, NPV, Profitability Index, Net Profitability Index and Internal Rate of Return – Capital rationing -Techniques of Risk analysis in Capital Budgeting.

Total Lecture Hours 90

BOOKS FOR STUDY:

- Maheshwari S.N., (2019), "Financial Management Principles and Practices", 15th Edition, Sultan Chand &Sons, New Delhi.
- Khan M.Y &Jain P.K, (2011), "Financial Management: Text, Problems and Cases", 8th Edition, McGraw Hill Education, New Delhi.
- Prasanna Chandra, (2019), "Financial Management, Theory and Practice", 10thEdition, McGraw Hill Education, New Delhi.
- Apte P.G, (2020), "International Financial Management" 8th Edition, Tata McGraw Hill, New Delhi.

BOOKS FOR REFERENCES:

- Pandey I. M., (2021), "Financial Management", 12thEdition, Pearson IndiaEducation Services Pvt. Ltd, Noida.
- Kulkarni P. V. &Satyaprasad B. G., (2015), "Financial Management", 14thEdition, Himalaya Publishing House Pvt Ltd, Mumbai.
- RustagiR. P., (2022), "Financial Management, Theory, Concept, Problems", 6thEdition, TaxmanPublications Pvt. Ltd, New Delhi.
- ArokiamaryGeetha Rufus, Ramani N. & Others, (2017), "Financial Management", 1st Edition, Himalaya Publishing House Pvt Ltd, Mumbai.

WEB RESOURCES:

- **https://resource.cdn.icai.org/66674bos53808-cp8.pdf**
- **https://resource.cdn.icai.org/66677bos53808-cp10u2.pdf**
- **https://resource.cdn.icai.org/66592bos53773-cp4u5.pdf**
- **https://resource.cdn.icai.org/65599bos52876parta-cp16.pdf**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL	✓	GLOBAL	
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Explain the important finance concepts	K1 to K5
CO2	Estimate risk and determine its impact on return	K1 to K5
CO3	Examine leasing and other sources of finance for startups	K1 to K5
CO4	Summaries cash receivable and inventory management techniques	K1 to K5
CO5	Evaluate techniques of long term investment decision incorporating risk factor	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	1	3	3	3				
CO2	3	3	2	3	3	3				
CO3	2	2	1	2	2	2				
CO4	2	2	1	2	2	2				
CO5	3	3	2	3	3	3				

S -STRONG M – MEDIUM L – LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	15	15	15	15	15
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	3.0	3.0	3.0	3.0	3.0

LESSON PLAN:			
UNIT	**COURSE NAME**	**HRS**	**PEDAGOGY**
I	Introduction to Business Finance and Time vale of money	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
II	Risk Management	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
III	Startup Financing and Leasing	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
IV	Cash, Receivable and Inventory Management	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
V	Multi National Capital Budgeting	**18**	**Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO2	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO4	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100.00	100
CIA II	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 –Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		20	32	52	37.14	37
K4		20	16	36	25.71	26
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	DIGITAL MARKETING			
Course Code	23PCCCC12	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To assess the evolution of digital marketing
- To appraise the dimensions of online marketing mix
- To infer the techniques of digital marketing
- To analyse online consumer behaviour
- To interpret data from social media and to evaluate game based marketing

UNIT - I INTRODUCTION TO DIGITAL MARKETING 18

Digital Marketing – Transition from traditional to digital marketing – Rise of internet – Growth of e-concepts – Growth of e-business to advanced e-commerce – Emergence of digital marketing as a tool – Digital marketing channels – Digital marketing applications, benefits and challenges – Factors for success of digital marketing – Emerging trends and concepts, Big Data and IOT, Segments based digital marketing, Hyperlocal marketing - Opportunities for digital marketing professionals.

UNIT - II ONLINE MARKETING MIX 18

Online marketing mix – E-product – E-promotion – E-price – E-place – Consumer segmentation – Targeting – Positioning – Consumers and online shopping issues – Website characteristics affecting online purchase decisions – Distribution andimplication on online marketing mix decisions – Digitization and implication on online marketing mix decisions.

UNIT - III DIGITAL MEDIA CHANNELS 18

Digital media channels – Search engine marketing – ePR – Affiliate marketing – Interactive display advertising – Opt-in-email marketing and mobile text messaging, Social media and viral marketing – Online campaign management using – Facebook, Twitter, Instagram, Snapchat, Pinterest – Metaverse marketing - Advantages and disadvantages of digital media channels – Metaverse marketing.

UNIT - IV ONLINE CONSUMER BEHAVIOR 18

Online consumer behavior – Cultural implications of key website characteristics – Dynamics of online consumer visit – Models of website visits – Web and consumer decision making process – Data base marketing – Electronic consumer relationship management – Goals – Process – Benefits – Role – Next generation CRM.

UNIT - V ANALYTICS AND GAMIFICATION 18

Digital Analytics – Concept – Measurement framework – Demystifying web data - Owned social metrics – Measurement metrics for Facebook, Twitter, YouTube, Slide Share, Pinterest, Instagram, Snapchat and LinkedIn – Earned social media metrics - Digital brand analysis – Meaning – Benefits – Components – Brand share dimensions – Brand audience dimensions – Market influence analytics – Consumer generated media and opinion leaders – Peer review – Word of mouth – Influence analytics – Mining consumer generated media – Gamification and game based marketing – Benefits – Consumer motivation for playing online games.

Total Lecture Hours 90

BOOKS FOR STUDY:

- Puneet Singh Bhatia, (2019) "Fundamentals of Digital Marketing", 2nd Edition,Pearson Education Pvt Ltd, Noida.
- Dave Chaffey, Fiona Ellis-Chadwick(2019) "Digital Marketing", Pearson Education Pvt Ltd, Noida.
- Chuck Hemann& Ken Burbary(2019) "Digital Marketing Analytics", Pearson Education Pvt Ltd, Noida.
- Seema Gupta, (2022) "Digital Marketing" 3rd Edition, McGraw Hill Publications Noida.
- Kailash Chandra Upadhyay,(2021) "Digital Marketing: Complete Digital MarketingTutorial", Notion Press, Chennai.
- Michael Branding, (2021) "Digital Marketing", Empire Publications India Private Ltd, New Delhi.

BOOKS FOR REFERENCES:

- VandanaAhuja, (2016) "Digital Marketing", Oxford University Press. London.
- Ryan Deiss& Russ Henneberry, (2017) "Digital Marketing", John Wiley and Sons Inc. Hoboken.
- Alan Charlesworth,(2014), "Digital Marketing - A Practical Approach", Routledge, London.
- Simon Kingsnorth, Digital Marketing Strategy,(2022) "An Integrated approach to Online Marketing", Kogan Page Ltd. United Kingdom.
- MaityMoutusy,(2022) "Digital Marketing" 2nd Edition, Oxford University Press, London.

WEB RESOURCES:

- **https://www.digitalmarketer.com/digital-marketing/assets/pdf/ultimate-guide-to-digital-marketing.pdf**
- **https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/educational-technologies/all/gamification-and-game-based-learning**
- **https://journals.ala.org/index.php/ltr/article/download/6143/7938**

Nature of Course	EMPLOYABILITY		SKILL ORIENTED	✓	ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

***Treat 20% as each unit (20*5=100%) and calculate the percen5age of change for the course.**

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Explain the dynamics of digital marketing	K1 to K5
CO2	Examine online marketing mix	K1 to K5
CO3	Compare digital media channels	K1 to K5
CO4	Explain online consumer behavior	K1 to K5
CO5	Analyse social media data	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	3	3	3				
CO2	3	3	2	3	3	3				
CO3	3	3	2	2	3	2				
CO4	3	3	2	2	3	3				
CO5	3	3	1	3	3	2				

S- STRONG M – MEDIUM L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	15	15	15	15	15
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	3.0	3.0	3.0	3.0	3.0

LESSON PLAN:			
UNIT	**COURSE NAME**	**HRS**	**PEDAGOGY**
I	Introduction to Business Finance and Time vale of money	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
II	Risk Management	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
III	Startup Financing and Leasing	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
IV	Cash, Receivable and Inventory Management	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
V	Multi National Capital Budgeting	**18**	**Seminar, Assignment, Chalk and talk, Power Point Presentation, Video Lectures**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO2	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO4	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100.00	100
CIA II	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 –Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		20	32	52	37.14	37
K4		20	16	36	25.71	26
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	BANKING AND INSURANCE			
Course Code	23PCCCC13	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To understand the evolution of new era banking
- To explore the digital banking techniques
- To analyse the role of insurance sector
- To evaluate the mechanism of customer service in insurance and the relevant regulations
- To analsye risk and its impact in banking and insurance industry

UNIT - I Introduction to Banking **18**

Banking: Brief History of Banking - Rapid Transformation in Banking: Customer Shift - Fintech Overview - Fintech Outlook - The Financial Disruptors - Digital Financial Revolution - New Era of Banking.Digital Banking – Electronic Payment Systems–Electronic Fund Transfer System – Electronic Credit and Debit Clearing – NEFT – RTGS –VSAT–SFMS–SWIFT.

UNIT - II Contemporary Developments in Banking **18**

Distributed Ledger Technology –Blockchain: Meaning - Structure of BlockChain - Types of Block Chain - Differences between DLT and Blockchain - Benefits of Blockchain and DLT - Unlocking the potential of Blockchain–Crypto currencies, Central Bank Digital Currency (CBDC) - Role of DLT in financial services - AI in Banking: Future of AI in Banking - Applications of AI in Banking - Importance of AI in banking - Banking reimagined with AI. Cloud banking - Meaning - Benefits in switching to Cloud Banking..

UNIT - III Indian Insurance Market **18**

HistoryofInsuranceinIndia – DefinitionandFunctionsofInsurance–InsuranceContract – IndianInsuranceMarket – ReformsinInsuranceSector – InsuranceOrganisationInsurance organization structure.InsuranceIntermediaries:InsuranceBroker – InsuranceAgent-SurveyorsandLossAssessors-ThirdPartyAdministrators(HealthServices) – Procedures-CodeofConduct.

UNIT - IV Customer Services in Insurance **18**

Customer Service in Insurance – Quality of Service-Roleof Insurance Agents in Customer Service-Agent's Communication and Customer Service –Ethical BehaviourinInsurance – GrievanceRedressalSysteminInsuranceSector –IntegratedGrievanceManagementSystem-InsuranceOmbudsman - Insurance Regulatory and Development Authority of India Act (IRDA) – Regulations and Guidelines.

UNIT - V Risk Management **18**

Risk Management and Control in banking and insurance industries – Methods of Risk Management – Risk Management by Individuals and Corporations – Tools for Controlling Risk.

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Puneet Singh Bhatia, (2019) "Fundamentals of Digital Marketing", 2nd Edition,Pearson Education Pvt Ltd, Noida.
- Dave Chaffey, Fiona Ellis-Chadwick(2019) "Digital Marketing", Pearson Education Pvt Ltd, Noida.
- Chuck Hemann& Ken Burbary(2019) "Digital Marketing Analytics", Pearson Education Pvt Ltd, Noida.
- Seema Gupta,(2022) "Digital Marketing" 3rd Edition, McGraw Hill Publications Noida.
- Kailash Chandra Upadhyay,(2021) "Digital Marketing: Complete Digital MarketingTutorial", Notion Press, Chennai.
- Michael Branding, (2021) "Digital Marketing", Empire Publications India Private Ltd, New Delhi.

BOOKS FOR REFERENCES:

- VandanaAhuja, (2016) "Digital Marketing", Oxford University Press. London.
- Ryan Deiss& Russ Henneberry, (2017) "Digital Marketing", John Wiley and Sons Inc. Hoboken.
- Alan Charlesworth,(2014), "Digital Marketing - A Practical Approach", Routledge, London.
- Simon Kingsnorth, Digital Marketing Strategy,(2022) "An Integrated approach to Online Marketing", Kogan Page Ltd. United Kingdom.
- MaityMoutusy,(2022) "Digital Marketing" 2nd Edition, Oxford University Press, London.

WEB RESOURCES:

- **https://www.digitalmarketer.com/digital-marketing/assets/pdf/ultimate-guide-to-digital-marketing.pdf**
- **https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/educational-technologies/all/gamification-and-game-based-learning**
- **https://journals.ala.org/index.php/ltr/article/download/6143/7938**

Nature of Course	EMPLOYABILITY		✓	SKILL ORIENTED			ENTREPRENEURSHIP					
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓				
Changes Made in the Course	Percentage of Change			No Changes Made			New Course	✓				
***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**												

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Relate the transformation in banking from traditional to new age	K1 to K5
CO2	Apply modern techniques of digital banking	K1 to K5
CO3	Evaluate the role of insurance sector	K1 to K5
CO4	Examine the regulatory mechanism	K1 to K5
CO5	Assess risk mitigation strategies	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	1	3	3	3				
CO2	3	3	3	3	3	3				
CO3	2	2	1	2	2	2				
CO4	3	2	2	1	2	2				
CO5	3	3	1	3	3	3				

S- STRONG M – MEDIUM L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	15	15	15	15	15
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	3.0	3.0	3.0	3.0	3.0

LESSON PLAN:

UNIT	COURSE NAME	HRS	PEDAGOGY
I	Introduction to Banking	18	Chalk and talk, Power Point Presentation, Video Lectures
II	Contemporary Developments in Banking	18	Chalk and talk, Power Point Presentation, Video Lectures

III	Indian Insurance Market	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
IV	Customer Services in Insurance	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
V	Risk Management	**18**	**Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO2	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO4	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100.00	100
CIA II	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 –Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		20	32	52	37.14	37
K4		20	16	36	25.71	26
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	INTRODUCTION TO INDUSTRY 4.0			
Course Code	23PCCEC11	**L**	**P**	**C**
Category	ELECTIVE - I	6	-	5

COURSE OBJECTIVES:

- To enable the students to comprehend the change from industry 1.0 to 4.0
- To gain knowledge on the challenges and future prospects of applying artificial intelligence
- To learn the applications of big data for industrial growth and development
- To understand the applications of IoT in various sectors
- To understand why education has to be aligned with industry 4.0

UNIT - I Introduction **18**

Industry: Meaning, Types - Industrial Revolution: Industrial Revolution 1.0 to 4.0: Meaning, Goals and Design Principles - Technologies of Industry 4.0 - Big Data – Artificial Intelligence (AI) – Industrial Internet of Things - Cyber Security – Cloud – Augmented Reality

UNIT - II Artificial Intelligence **18**

Artificial Intelligence (AI): Need, History and Foundations -The AI - environment - Societal Influences of AI – Application Domains and Tools - Associated Technologies of AI - Future prospects of AI – Challenges of AI.

UNIT - III Big Data **18**

Evolution - Data Evolution - Data : Terminologies - Essential of Big Data in Industry 4.0 - Big Data Merits and Limitations - Big Data Components : Big Data Characteristics - Big Data Processing Frameworks - Big Data Tools - Big Data Applications - Big Data Domain Stack : Big Data in Data Science – Big Data in IoT - Big Data in Machine Learning - Big Data in Databases - Big Data Use cases: Big Data in Social Causes - Big Data for Industry - Big Data Roles - Learning Platforms; Internet of Things (IoT) : Introduction to IoT – Architecture of IoT Technologies for IoT - Developing IoT Applications - Applications of IoT - Security in IoT.

UNIT - IV Applications of IoT **18**

IoT in Manufacturing – Healthcare – Education – Aerospace and Defence – Agriculture – Transportation and Logistics – Impact of Industry 4.0 on Society: Impact on Business, Government, People – Tools for Artificial Intelligence - Big Data and Data Analytics - Virtual Reality - Augmented Reality – IoT - Robotics.

UNIT - V Industry 4.0 **18**

Education 4.0 – Curriculum 4.0 – Faculty 4.0 – Skills required for Future - Tools for Education – Artificial Intelligence Jobs in 2030 – Jobs 2030 - Framework for aligning Education with Industry 4.0.

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Seema Acharya J, Subhashini Chellappan, (2019) "Big Data and Analytics", 2nd Edition, Wiley Publication, New Delhi.
- Russel S, Norvig P (2010), "Artificial Intelligence: A Modern approach", 3rd Edition, Prentice Hall, New York.
- Pethuru Raj and Anupama C. Raman, (2017), "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", Auerbach Publications

BOOKS FOR REFERENCES:

- Judith Hurwitz, Alan Nugent, Fern Halper, Marcia Kaufman, "Big Data for Dummies", John Wiley & Sons, Inc.
- Nilsson (2000), Artificial Intelligence: A new synthesis, Nils J Harcourt Asia PTE Ltd

WEB RESOURCES:

- **https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SEEA1403.pdf**
- **https://library.oapen.org/bitstream/handle/20.500.12657/43836/external_content.pdf? sequence=1**
- **https://www.vssut.ac.in/lecture_notes/lecture1428643004.pdf**

Nature of Course	EMPLOYABILITY		✓	SKILL ORIENTED			ENTREPRENEURSHIP					
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL			GLOBAL		✓		
Changes Made in the Course	Percentage of Change			No Changes Made			New Course			✓		

***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Discuss on the change from industry 1.0 to 4.0	K1 to K5
CO2	Discover the challenges and future prospects of applying artificial intelligence	K1 to K5
CO3	Apply big data for industrial growth and development	K1 to K5
CO4	Apply IoT in various sectors like Manufacturing, Healthcare, Education, Aerospace and Défense	K1 to K5
CO5	Appraise why education has to be aligned with industry 4.0	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	3	3	3	3	3		
CO2	2	3	2	3	3	3	3	3		
CO3	2	3	2	3	3	3	3	3		
CO4	2	3	2	3	3	3	3	3		
CO5	2	3	2	3	3	3	3	3		

S- STRONG M – MEDIUM L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	15	15	15	15	15
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	3.0	3.0	3.0	3.0	3.0

LESSON PLAN:

UNIT	COURSE NAME	HRS	PEDAGOGY
I	Industry: Meaning, Types - Industrial Revolution: Industrial Revolution 1.0 to 4.0: Meaning, Goals and Design Principles - Technologies of Industry 4.0 - Big Data – Artificial Intelligence (AI) – Industrial Internet of Things - Cyber Security – Cloud – Augmented Reality.	18	THEORY
II	Artificial Intelligence (AI): Need, History and Foundations -The AI - environment - Societal	18	THEORY

	Influences of AI – Application Domains and Tools - Associated Technologies of AI - Future prospects of AI – Challenges of AI.		
III	Evolution - Data Evolution - Data : Terminologies - Essential of Big Data in Industry 4.0 - Big Data Merits and Limitations - Big Data Components : Big Data Characteristics - Big Data Processing Frameworks - Big Data Tools - Big Data Applications - Big Data Domain Stack : Big Data in Data Science – Big Data in IoT - Big Data in Machine Learning - Big Data in Databases - Big Data Usecases: Big Data in Social Causes - Big Data for Industry - Big Data Roles - Learning Platforms; Internet of Things (IoT) : Introduction to IoT – Architecture of IoT Technologies for IoT - Developing IoT Applications - Applications of IoT Security in IoT.	**18**	**THEORY**
IV	IoT in Manufacturing – Healthcare – Education – Aerospace and Defence – Agriculture – Transportation and Logistics – Impact of Industry 4.0 on Society: Impact on Business, Government, People - Tools for Artificial Intelligence - Big Data and Data Analytics - Virtual Reality - Augmented Reality – IoT - Robotics.	**18**	**THEORY**
V	Education 4.0 – Curriculum 4.0 – Faculty 4.0 – Skills required for Future - Tools for Education – Artificial Intelligence Jobs in 2030 – Jobs 2030 - Framework for aligning Education with Industry 4.0.	**18**	**THEORY**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
CI AII	**CO3**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO4	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	**2**			**2**	**3.6**	**7.2**
	K2	**2**			**2**	**3.6**	
	K3		**20**		**20**	**35.7**	**35.7**
	K4			**32**	**32**	**57.1**	**57.1**
	K5						
	Marks	**4**	**20**	**32**	**56**	**100**	**100**
CIA II	**K1**	**2**			**2**	**3.6**	**7.2**
	K2	**2**			**2**	**3.6**	
	K3		**20**		**20**	**35.7**	**35.7**
	K4			**32**	**32**	**57.1**	**57.1**
	K5						
	Marks	**4**	**20**	**32**	**56**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 – Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	14.28
K2	5	10		15	10.71	
K3		20	32	52	37.14	37.14
K4		20	16	36	25.71	25.17
K5			32	32	22.85	22.85
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions **PART – C(5 x 8 = 40 Marks)**				
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	DATABASE MANAGEMENT SYSTEM			
Course Code	23PCCEC12	**L**	**P**	**C**
Category	ELECTIVE	6	-	5

COURSE OBJECTIVES:

- To introduce the basic concepts of Relational Database Management System and the working knowledge of Linux environment
- To understand designing databases and queries in SQL
- To learn RDBMS
- To up skill the functions and operators
- To understand the constraints, locks and MySQL

UNIT - I Introduction to Database Systems and Linux **18**

Introduction to File and Database systems Database System Structure - Data Models Introduction to Network Models: ER Model, Relational Model - Introduction to Linux Operating System - Properties of Linux - Desktop Environment - Linux basics commands - Working with Files - Text Editors - I/O Redirections - Pipes, Filters, and Wildcards - Changing Access Rights.

UNIT - II SQL Definition and Normalization **18**

SQL – Data Definition - Queries in SQL - Updates - Views - Integrity and Security. Relational Database design – Functional dependences and Normalization for relational databases (up to BCNF) - Query Forms.

UNIT - III Files and RDBMs **18**

Record Storage and Primary File Organization - Secondary Storage Devices - Operations on Files - Heap File - Sorted Files - Hashing Techniques - Index Structure for Files - Different Types of Indexes - B-Tree - B+Tree - Query Processing - Multimedia Databases - Basic Concepts and Applications - Indexing and Hashing - Text Databases - Overview of RDBMs - Advantages of RDBMs over DBMs – Introduction to Data Mining.

UNIT - IV Data Definition and Manipulation Language **18**

Data Definition Language - Data Manipulation Language - Transaction Control - Data Control Language Grant - Revoke Privilege Command - Set Operators - Joins- Kinds of Joins - Table Aliases - Sub queries - Multiple and Correlated Sub Queries - Functions - Single Row - Date, Character, Numeric, Conversion and Group Functions

UNIT - V Constraints and MYSQL **18**

Constraints - Domain, Equity, Referential Integrity Constraints - Locks - Types of Locks, Table Partitions - Synonym - Introduction to PL/SQL - Introduction - MySQL as an RDBMS Tool - Data types and Commands.

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Ramakrishnan Raghu and Gehrke Johannes, "Database Management Systems", McGraw–Hill, USA.
- Rajendra Prasad Mahapatra and Govind Verma, "Database Management System", Khanna Publications, New Delhi.

BOOKS FOR REFERENCES:

- Ramon A Mata-Toledo and Pauline K Cushman, "Database Management System", Schaun's Outlines, New York.
- Abraham Silberschatz, Henry F Korth and S. Sudarshan, "Database System Concepts" McGraw–Hill, USA.

WEB RESOURCES:

- **http://education-portal.com/academy/lesson/what-is-a-database-management-systempurpose-and-function.html.**
- **http://www.comptechdoc.org/os/linux/usersguide/linux_ugbasics.html.**
- **http://www.dummies.com/how-to/content/common-linux-commands.html.**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change	**50%**	No Changes Made		New Course			

***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Identify models and schemas in DBMS and LINUX	K1 to K5
CO2	Demonstrate Queries in SQL	K1 to K5
CO3	Discuss handling files and databases	K1 to K5
CO4	Apply skills on functions and operators in RDBMS	K1 to K5
CO5	Apply constraints and locks in SQL	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	3	3	2	2	2	3	2	
CO2	3	3	2	3	3	3	2	2	3	
CO3	1	2	2	2	1	2	1	2	2	
CO4	3	3	3	3	3	3	3	3	3	
CO5	3	3	3	3	1	2	1	3	2	

S- STRONG M – MEDIUM L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2	3	3	3	2
CO 2	3	3	2	3	3
CO 3	1	2	2	2	1
CO 4	3	3	3	3	3
CO 5	3	3	3	3	1
WEITAGE	12	14	13	14	10
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS					

LESSON PLAN:

UNIT	Database Management System	HRS	PEDAGOGY
I	Introduction to File and Database systems Database System Structure - Data Models Introduction to Network Models: ER Model, Relational Model - Introduction to Linux Operating System - Properties of Linux - Desktop Environment - Linux basics commands - Working with Files - Text Editors - I/C Redirections - Pipes, Filters, and Wildcards - Changing Access Rights.	18	THEORY

II	SQL – Data Definition - Queries in SQL - Updates - Views - Integrity and Security. Relational Database design – Functional dependences and Normalization for relational databases (up to BCNF) - Query Forms.	**18**	**THEORY**
III	Record Storage and Primary File Organization - Secondary Storage Devices - Operations on Files - Heap File - Sorted Files - Hashing Techniques - Index Structure for Files - Different Types of Indexes - B-Tree - B+Tree - Query Processing - Multimedia Databases - Basic Concepts and Applications - Indexing and Hashing - Text Databases - Overview of RDBMs - Advantages of RDBMs over DBMs – Introduction to Data Mining.	**18**	**THEORY**
IV	Data Definition Language - Data Manipulation Language - Transaction Control - Data Control Language Grant - Revoke Privilege Command - Set Operators - Joins- Kinds of Joins - Table Aliases - Sub queries - Multiple and Correlated Sub Queries - Functions - Single Row - Date, Character, Numeric, Conversion and Group Functions	**18**	**THEORY**
V	Constraints - Domain, Equity, Referential Integrity Constraints - Locks - Types of Locks, Table Partitions - Synonym - Introduction to PL/SQL - Introduction - MySQL as an RDBMS Tool - Data types and Commands.	**18**	**THEORY**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
CI AII	**CO3**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO4	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	**2**			**2**	**3.6**	**7.2**
	K2	**2**			**2**	**3.6**	
	K3		**20**		**20**	**35.7**	**35.7**
	K4			**32**	**32**	**57.1**	**57.1**
	K5						
	Marks	**4**	**20**	**32**	**56**	**100**	**100**
CIA II	**K1**	**2**			**2**	**3.6**	**7.2**
	K2	**2**			**2**	**3.6**	
	K3		**20**		**20**	**35.7**	**35.7**
	K4			**32**	**32**	**57.1**	**57.1**
	K5						
	Marks	**4**	**20**	**32**	**56**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 – Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	14.28
K2	5	10		15	10.71	
K3		20	32	52	37.14	37.14
K4		20	16	36	25.71	25.17
K5			32	32	22.85	22.85
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions			**PART – B**	**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions **PART – C(5 x 8 = 40 Marks)**				
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	


SECOND SEMESTER

Course Name	STRATEGIC COST MANAGEMENT			
Course Code	23PCCCC21	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To analyse the aspects of strategic and quality control management
- To analyse and select cost control techniques
- To apply activity based costing for decision making
- To utilise transfer pricing methods in cost determination
- To apply cost management techniques in various sectors

UNIT - I Introduction to Strategic Cost Management **18**

Introduction to Strategic Cost Management (SCM) – Need for SCM – Differences between SCM and Traditional Cost Management - Value Chain Analysis: Meaning and steps - Quality Cost Management: Meaning of Quality and Quality Management – Cost of Quality –Indian Cost Accounting Standard 21 on Quality Control - Introduction to Lean System – Benefits of Lean System – Just in Time (JIT) – Kaizen Costing.

UNIT - II Cost Control and Reduction **18**

Cost Management Techniques: Cost Control: Meaning and Prerequisites - Cost Reduction: Meaning and Scope – Differences between Cost control and cost reduction - Pareto Analysis: Meaning, importance and applications - Target Costing: Meaning, steps and Principles – Life Cycle Costing: Meaning, Strategies for each stage of product life cycle, Benefits – Learning Curve: Meaning, Learning curve ratio and applications.

UNIT - III Activity Based Cost Management **18**

Activity Based Cost Management: Concept, Purpose, Stages, BenefitsRelevance in Decisionmaking and its Application in Budgeting – Practical problems.

UNIT - IV Transfer Pricing **18**

Transfer Pricing: Meaning, Benefits, Methods: Pricing based on cost, Market price on transfer price, Negotiated pricing and Pricing based on opportunity costs – Practical Problems.

UNIT - V Cost Management in Agriculture and IT sector **18**

Agriculture Sector: Features, Cost Structure, Cost Management, Tools to measure the performance, Minimum Support Price and International Perspective –Information Technology Sector: Features, Cost Structure, Cost Management and International Perspective.

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Ravi M Kishore (2018), "Strategic Cost Management", 5th Edition, TaxmannPublications Pvt. Ltd, New Delhi.
- Bandgar P. K., (2017), "Strategic Cost Management", 1st Edition, HimalayaPublishing House Pvt Ltd, Mumbai.
- Sexena V. K., (2020), "Strategic Cost Management and PerformanceEvaluation", 1st Edition, Sultan Chand & Sons, New Delhi.

BOOKS FOR REFERENCES:

- John K Shank and Vijay Govindarajan(2008), Strategic Cost Management, Simon & Schuster; Latest edition, UK
- JawaharLal, (2015), "Strategic Cost Management", 1st Edition, Himalaya Publishing House Pvt Ltd, Mumbai.)
- Arora M. N., (2021), "A Text Book of Cost and Management Accounting", 11th Edition, Vikas Publishing House Pvt. Ltd., New Delhi.

WEB RESOURCES:

- **https://www.accountingtools.com/articles/strategic-cost-management.html#:~:text=Strategic%20cost%20management%20is%20the,it%20or%20have%20no%20impact.**
- **https://ca-final.in/wp-content/uploads/2018/09/Chapter-4-Cost-Management-Techniques.pdf**
- **https://resource.cdn.icai.org/66530bos53753-cp5.pdf**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL	✓	GLOBAL	
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Explain strategic cost management and QC	K1 to K5
CO2	Choose the appropriate technique for cost control	K1 to K5
CO3	Make use of activity based costing in practice	K1 to K5
CO4	Choose transfer pricing methods to solve problems	K1 to K5
CO5	Construct cost structure for Agriculture and IT sector	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	3	3				
CO2	3	3	2	3	3	3				
CO3	3	3	2	3	3	3				
CO4	3	3	2	3	3	3				
CO5	3	3	1	3	3	3				

S- STRONG M – MEDIUM L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	15	15	15	15	15
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	3.0	3.0	3.0	3.0	3.0

LESSON PLAN:			
UNIT	**COURSE NAME**	**HRS**	**PEDAGOGY**
I	Introduction to Strategic Cost Management	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
II	Cost Control and Reduction	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
III	Activity Based Cost Management	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
IV	Transfer Pricing	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
V	Cost Management in Agriculture and IT sector	**12**	**Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment**

Learning Outcome Based Education & Assessment (LOBE)
Formative Examination - Blue Print
Articulation Mapping – K Levels with Course Outcomes (COs)

Internal	Cos	K Level	Section A		Section B Either or Choice	Section C Either or Choice
			MCQs			
			No. of. Questions	K - Level		
CI AI	CO1	K1 – K5	2	K1	2(K2, K2)	2(K4, K4)
	CO2	K1 – K5	2	K2	2(K3, K3)	2(K5, K5)
CI AII	CO3	K1 – K5	2	K1	2(K2, K2)	2(K4, K4)
	CO4	K1 – K5	2	K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		No. of Questions to be asked	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.57	
	K2	2	10		12	21.43	25
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100.00	100
CIA II	K1	2			2	3.57	
	K2	2	10		12	21.43	25
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 –Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		20	32	52	37.14	37
K4		20	16	36	25.71	26
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions			**PART – B**	**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions			**PART – C**	**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	CORPORATE ACCOUNTING			
Course Code	23PCCCC22	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To understand the accounting treatment for issue of shares
- To determine profits for fire and marine insurance
- To prepare consolidated financial statements
- To account for price level changes
- To adopt financial reporting standards

UNIT - I Issue of Shares and Final Accounts of Companies 18

Issue of Shares: ESOPs - ESPS - Sweat Equity Shares - Book Building- Buy-back of Shares - Conversion of debentures into shares - Final accounts of Companies as per Schedule III of the Companies Act, 2013 – Managerial remuneration.

UNIT - II Insurance Company Accounts 18

Insurance Company Accounts: Types of Insurance - Final accounts of life assurance Companies- Ascertainment of profit- Valuation Balance Sheet-Final accounts of Fire, Marine and miscellaneous Insurance Companies.

UNIT - III Consolidated financial statements 18

Consolidated financial statements as per AS 21: Consolidated Profit and Loss Account– Minority interest – Cost of control – Capitalreserve – Inter-company holdings –Preparation of consolidated Balance Sheet.

UNIT - IV Contemporary Accounting Methods 18

Accounting for price level changes – Social responsibility accounting – Human resource accounting - Forensic Accounting

UNIT - V Financial reporting 18

Financial reporting: Meaning, Objectives, Characteristics – Indian Accounting Standards (AS 5, AS 10, AS 19, AS 20) – Corporate Social Responsibility: Meaning, Key provisions of Companies Act, 2013, Accounting for CSR expenditure, Reporting of CSR, Presentation and disclosure in the financial statements.

Total Lecture Hours 90

BOOKS FOR STUDY:

- Gupta R. L. &Radhaswamy M. (2021), "Corporate Accounting – Volume I & II", 14th Edition, Sultan Chand &Sons, New Delhi.
- Maheshwari S. N., Sharad K. Maheshwari&Suneel K. Maheshwari, (2022),"Advanced Accountancy - Volume I &II", 11th Edition, Vikas PublishingHouse Pvt. Ltd., New Delhi.
- Jain S. P., Narang K. L., SimmiAgrawal and Monika Sehgal (2019), "AdvancedAccountancy - Corporate Accounting – Volume - II", 22nd Edition, KalyaniPublishers, New Delhi.
- Reddy T. S. &Murthy A., (2022), "Corporate Accounting – Volume I &II", 17th Edition, Margham Publications, Chennai.

BOOKS FOR REFERENCES:

- ArulanandamM.A&Raman K.S., (2021), "Advanced Accounting (Corporate Accounting – II)", 8th Edition, Himalaya Publishing House Pvt Ltd, Mumbai.
- Shukla M C, Grewal T S and Gupta S C, (2022), "Advanced Accounts Volume II",19th Edition, Sultan Chand &Sons, New Delhi.
- Gupta R. L., (2022), "Problems and Solutions in Company Accounts", 2nd Edition,Sultan Chand &Sons, New Delhi.

WEB RESOURCES:

- **https://resource.cdn.icai.org/66550bos53754-p1-cp9.pdf**
- **https://resource.cdn.icai.org/66545bos53754-p1-cp4.pdf**
- **https://resource.cdn.icai.org/66638bos53803-cp1.pdf**
- **http://ppup.ac.in/download/econtent/pdf/MBA%201st%20sem%20Lecture%20note%20on%20forensic%20accounting%20by%20Anjali.pdf**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL	✓	GLOBAL	
Changes Made in the Course	Percentage of Change	**100**	No Changes Made		New Course			

***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Determine profit and financial position by preparing financial statements of companies as per schedule III of Companies Act, 2013	K1 to K5
CO2	Apply the provisions of IRDA Regulations in the preparation of final accounts of Life Insurance and General Insurance Companies.	K1 to K5
CO3	Determine the overall profitability and financial position by preparing consolidated financial statements of holding companies in accordancewithAS21.	K1 to K5
CO4	Analyse contemporary accounting methods	K1 to K5
CO5	Examine Financial Reporting based on appropriate AccountingStandardsandprovisionsofCompaniesAct2013withrespecttoCorporateSocialResponsibility	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	3	3	3				
CO2	3	3	3	3	2	3				
CO3	3	3	2	3	3	3				
CO4	3	3	3	3	3	3				
CO5	3	3	3	3	3	3				

S- STRONG M – MEDIUM L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	15	15	15	15	15
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	3.0	3.0	3.0	3.0	3.0

LESSON PLAN:			
UNIT	**COURSE NAME**	**HRS**	**PEDAGOGY**
I	Issue of Shares and Final Accounts of Companies	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
II	Insurance Company Accounts	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
III	Consolidated financial statements	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
IV	Contemporary Accounting Methods	**12**	**Chalk and talk, Power Point Presentation, Video Lectures**
V	Financial reporting	**12**	**Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO2	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1	2(K2, K2)	2(K4, K4)
	CO4	**K1 – K5**	2	K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100.00	100
CIA II	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 –Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		20	32	52	37.14	37
K4		20	16	36	25.71	26
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	SETTING UP OF BUSINESS ENTITIES			
Course Code	23PCCCC23	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To understand the startup landscape and its financing
- To analyse the formation and registration of Section 8 company
- To outline the concept of LLP and business collaboration
- To understand the procedure for obtaining registration and license
- To create awareness about the legal compliances governing business entities

UNIT - I Startups in India **18**

Types of business organisations –Factors governing selection of an organisation - Startups – Evolution – Definition of a Startup – Startup landscape in India – Startup India policy – Funding support and incentives – Indian states with Startup policies – Exemptions forstartups – Life cycle of a Startup – Important points for Startups – Financing options available for Startups – Equity financing – Debt financing – Venture capital financing – IPO – Crowd funding – Incubators - Mudra banks –Successful Startups in India.

UNIT - II Insurance Company Accounts **18**

Formation and registration of NGOs – Section 8 Company – Definition – Features – Exemptions – Requirements of Section 8 Company – Application for incorporation – Trust: Objectives of a trust – Persons who can create a trust – Differences between a public and private trust – Exemptions available to trusts – Formation of a trust - Trust deed –Society – Advantages – Disadvantages – Formation of a society – Tax exemption to NGOs.

UNIT - III Limited Liability Partnership and Joint Venture **18**

Limited Liability Partnership: Definition – Nature and characteristics – Advantages and disadvantages – Procedure for incorporation – LLP agreement – Annual compliances of LLP-Business collaboration: Definition – Types –Joint venture: Advantages and disadvantages – Types – Joint venture agreement - Successful joint ventures in India– Special Purpose Vehicle – Meaning – Benefits – Formation.

UNIT - IV Registration and Licenses **18**

Registration and Licenses: Introduction – Business entity registration – Mandatory registration – PAN – Significance – Application and registration of PAN – Linking of PAN with Aadhar –TAN – Persons liable to apply for TAN – Relevance of TAN – Procedure to apply for TAN –GST: Procedure for registration – Registration under Shops and Establishment Act –MSME registration – Clearance from Pollution Control Board – FSSAI registration and license – Trade mark, Patent and Design registration.

UNIT - V	Environmental Legislations in India	18
Geographical Indication of Goods (Registration and Protection) Act, 1999: Objectives, Salient Features - The Environmental Protection Act, 1986: Prevention, control and abatement of environmental pollution - The Water (Prevention And Control of Pollution) Act, 1974: The Central and State Boards for Prevention and Control of Water Pollution - Powers and Functions of Boards - Prevention and Control of Water Pollution - Penalties and Procedure- The Air (Prevention and Control of Pollution) Act, 1981: Central and State Boards for The Prevention and Control of Air Pollution - Powers And Functions - Prevention and Control of Air Pollution - Penalties and Procedure.		
	Total Lecture Hours	**90**

BOOKS FOR STUDY:

- Kailash Thakur, (2007) "Environment Protection Law and Policy in India", 2nd Edition, Deep & Deep Publication Pvt. Ltd., New Delhi.
- Avtar Singh, (2015), "Intellectual Property Law", Eastern Book Company, Bangalore
- Zad N.S and DivyaBajpai, (2022) "Setting up of Business Entities and Closure" (SUBEC), Taxmann, Chennai
- AmitVohra&RachitDhingra (2022) "Setting Up Of Business Entities & Closure", 6th Edition, Bharath Law House, New Delhi

BOOKS FOR REFERENCES:

- Setting up of Business Entities and Closure (2021), Module 1, Paper 3, The Institute of Company Secretaries of India, MP Printers, Noida
- The Air (Prevention and Control of Pollution) Act, 1981, Bare Act, 2022 Edition, Universal/LexisNexis, Noida
- The Water (Prevention and Control of Pollution) Act, 1974, Bare Act, 2022 Edition, Universal/LexisNexis, Noida
- Cliff Ennico, (2005) "Small Business Survival Guide Starting Protecting and Securing your Business for Long-Term Success", Adams Media, USA
- Daniel Sitarz,(2011) "Sole Proprietorship: Small Business Start-up Kit", 3rdEdition, Nova Publishing, USA

WEB RESOURCES:

- **https://www.icsi.edu/media/webmodules/FINAL_FULL_BOOK_of_EP_SBEC_2018.pdf**
- **https://www.mca.gov.in/MinistryV2/incorporation_company.html 3)**
- **https://legislative.gov.in/sites/default/files/The%20Limited%20Liability%20 Partnership%20 Act,%202008.pdf**
- **https://legislative.gov.in/sites/default/files/A1999-48.pdf**
- **https://www.indiacode.nic.in/bitstream/123456789/6196/1/the_environment_protection_act%2C1986.pdf**

Nature of Course	EMPLOYABILITY		SKILL ORIENTED		ENTREPRENEURSHIP	✓		
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		
***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**								

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Determine profit and financial position by preparing financialstatementsofcompaniesasperscheduleIIIofCompaniesAct,2013	**K1 to K5**
CO2	Apply the provisions of IRDA Regulations in the preparation of final accounts of Life Insurance and General Insurance Companies.	**K1 to K5**
CO3	Determine the overall profitability and financial position by preparingconsolidatedfinancialstatementsofholdingcompaniesin accordancewithAS21.	**K1 to K5**
CO4	Analyse contemporary accounting methods	**K1 to K5**
CO5	Examine FinancialReporting based on appropriate AccountingStandardsandprovisionsofCompaniesAct2013withrespecttoCorporateSocialResponsibility	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	3	3				
CO2	3	2	2	3	2	3				
CO3	3	3	2	3	3	3				
CO4	3	3	3	3	3	3				
CO5	3	3	3	3	3	3				

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	3	3
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	15	15	15	15	15
WEIGHTED PERCENTAGE OF COURSE	3.0	3.0	3.0	3.0	3.0

CONTRIBUTION TO POS					

LESSON PLAN:

UNIT	COURSE NAME	HRS	PEDAGOGY
I	Startups in India	12	Chalk and talk, Power Point Presentation, Video Lectures
II	Not-for-Profit Organisations	12	Chalk and talk, Power Point Presentation, Video Lectures
III	Limited Liability Partnership and Joint Venture	12	Chalk and talk, Power Point Presentation, Video Lectures
IV	Registration and Licenses	12	Chalk and talk, Power Point Presentation, Video Lectures
V	Environmental Legislations in India	12	Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment

Learning Outcome Based Education & Assessment (LOBE)
Formative Examination - Blue Print
Articulation Mapping – K Levels with Course Outcomes (COs)

Internal	Cos	K Level	Section A		Section B Either or Choice	Section C Either or Choice
			MCQs			
			No. of. Questions	K - Level		
CI AI	CO1	K1 – K5	2	K1	2(K2, K2)	2(K4, K4)
	CO2	K1 – K5	2	K2	2(K3, K3)	2(K5, K5)
CI AII	CO3	K1 – K5	2	K1	2(K2, K2)	2(K4, K4)
	CO4	K1 – K5	2	K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		No. of Questions to be asked	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.57	
	K2	2	10		12	21.43	25
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100.00	100
CIA II	K1	2			2	3.57	
	K2	2	10		12	21.43	25
	K3		10		10	17.86	18
	K4			16	16	28.57	29
	K5			16	16	28.57	29
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 –Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		20	32	52	37.14	37
K4		20	16	36	25.71	26
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions			**PART – B**	**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions			**PART – C**	**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	DATA MINING AND DATA INTERPRETATION			
Course Code	23PCCEC21	**L**	**P**	**C**
Category	ELECTIVE - III	6	-	5

COURSE OBJECTIVES:

- To understand the basic concepts, principles and need of data warehousing
- To gain knowledge on the data warehouse architecture, modelling and its implementation.
- To understand steps in implementing data mart and its various dimensions
- To learn the features, types and challenges of data mining
- To aid the students to understand the various data mining tools and techniques

UNIT - I Data Warehouse **18**

Definition - history of data warehouse - features of data warehouses - characteristics of data warehouse - goals of data warehousing- principles of data warehousing - need for data warehouse - benefits of data warehouse - need for separate data warehouse - difference between database and data warehouse - applications of data warehouses - components of data warehouse- data staging omponent.

UNIT - II Data Warehouse Architecture **18**

Data warehouse architecture - properties of data warehouse architectures - types of data warehouse architectures- three-tier data warehouse architecture - ETL (extract, transform, and load) process - selecting an ELT tool- Difference between ETL and ELT types of data warehouses - data warehouse modelling - data modelling life cycle - types of data warehouse models- data warehouse design - data warehouse implementation- implementation guidelines - meta data - necessary of metadata in data warehouses - types of metadata- metadata repository - benefits of metadata repository.

UNIT - III Data Mart **18**

Data Mart- Reasons for creating a data mart- Types of Data Marts- Steps in Implementing a Data Mart- Difference between Data Warehouse and Data Mart. - Dimensional Modeling-Objectives of Dimensional Modeling- Advantages of Dimensional Modeling - Elements of Dimensional Modeling - Dimension Table- Multidimensional Data Model-Data Cube.

UNIT - IV Data Mining **18**

Definition - History of Data Mining- Features of Data Mining - Types of Data Mining - Data Mining Vs Data Warehousing- Advantages and Disadvantages of Data Mining - Data Mining Applications - Challenges of Implementation in Data mining - Steps involved in Data Mining - Classification of Data Mining Systems.

UNIT - V Data Mining Tools & Techniques **18**

Data Mining Implementation Process - Data Mining Architecture - Clustering in Data Mining - Different types of Clustering - Text Data Mining - Bitcoin Data Mining - Data Mining Vs Big Data - Data Mining Models - Trends in Data Mining.

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Jiawei Han, MichelineKamber (2011), Data Mining, Concepts and Techniques, Morgan Kauffman Publishers, California.
- Pang Ning Tan, Michael Steinbach, Vipin Kumar (2005), Introduction to Data Mining, Addison Wesley, USA.
- K. P. Soman, ShyamDiwakar, V. Ajay (2006), Insight into Data Mining: Theory & Practice, Prentice Hall of India, New Delhi.

BOOKS FOR REFERENCES:

- BPB Editorial Board (2004), "Data Mining", BPB publications, Noida.
- Ian H. Witten &Eibe Frank (2011), "Data Mining, Practical Machine Learning Tools and Techniques", Morgan Kaufmann series.
- Ramesh Sharda, Dursun Delen, Efraim Turban (2018), "Business Intelligence", Pearson Education Services Pvt Ltd, Noida.

WEB RESOURCES:

- **https://mrcet.com/downloads/digital_notes/ME/III%20 year/ERP%20 Complete%20Digital%20notes.pdf**
- **https://mrcet.com/pdf/Lab%20Manuals/IT/DATA%20WAREHOUSING%20AND% 020DATA%20MINING%20(R18A0524).pdf00**

Nature of Course	EMPLOYABILITY		SKILL ORIENTED		ENTREPRENEURSHIP	✓				
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓		
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓				
***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**										

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Explain the basic concepts, principles and need of data warehousing	**K1 to K5**
CO2	Appraise data warehouse architecture, modeling and its implementation.	**K1 to K5**
CO3	Choose various steps in implementing data mart and its dimensions	**K1 to K5**
CO4	Recall the features and types of data mining	**K1 to K5**
CO5	Apply various data mining tools and techniques	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1	1	1	1	2	3	2	2	3	
CO2	2	3	2	2	2	3	2	2	3	

CO3	3	3	3	3	3	3	3	3	3	
CO4	3	3	3	3	3	3	3	3	3	
CO5	3	3	3	3	3	3	3	3	3	

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	1	1	1	1	2
CO 2	2	3	2	2	2
CO 3	3	3	3	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEITAGE	12	13	12	12	13
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS					

LESSON PLAN:

UNIT	COURSE NAME	HRS	PEDAGOGY
I	Definition - history of data warehouse - features of data warehouses - characteristics of data warehouse - goals of data warehousing- principles of data warehousing - need for data warehouse - benefits of data warehouse - need for separate data warehouse - difference between database and data warehouse - applications of data warehouses - components of data warehouse- data staging component.	18	THEORY
II	Data warehouse architecture - properties of data warehouse architectures - types of data warehouse architectures- three-tier data warehouse architecture - ETL (extract, transform, and load) process - selecting an ELT tool- Difference between ETL and ELT types of data warehouses - data warehouse modelling - data modelling life cycle - types of data warehouse models- data warehouse design - data warehouse implementation- implementation guidelines - meta data - necessary of metadata in data warehouses - types of metadata- metadata repository - benefits of metadata repository.	18	THEORY
III	Data Mart- Reasons for creating a data mart- Types of Data Marts- Steps in Implementing a Data Mart- Difference between Data Warehouse and Data Mart. -	18	THEORY

	Dimensional Modeling-Objectives of Dimensional Modeling- Advantages of Dimensional Modeling - Elements of Dimensional Modeling - Dimension Table- Multidimensional Data Model-Data Cube.		
IV	Definition - History of Data Mining- Features of Data Mining - Types of Data Mining - Data Mining Vs Data Warehousing- Advantages and Disadvantages of Data Mining - Data Mining Applications - Challenges of Implementation in Data mining - Steps involved in Data Mining - Classification of Data Mining Systems.	**18**	**THEORY**
V	Data Mining Implementation Process - Data Mining Architecture - Clustering in Data Mining - Different types of Clustering - Text Data Mining - Bitcoin Data Mining - Data Mining Vs Big Data - Data Mining Models - Trends in Data Mining.	**18**	**THEORY**

Learning Outcome Based Education & Assessment (LOBE)
Formative Examination - Blue Print
Articulation Mapping – K Levels with Course Outcomes (COs)

Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
CI AII	**CO3**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO4	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.6	7.2
	K2	2			2	3.6	
	K3		20		20	35.7	35.7
	K4			32	32	57.1	57.1
	K5						
	Marks	4	20	32	56	100	100
CIA II	K1	2			2	3.6	7.2
	K2	2			2	3.6	
	K3		20		20	35.7	35.7
	K4			32	32	57.1	57.1
	K5						
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 – Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	COs	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	**Section A (Multiple Choice Questions)**	**Section B (Either or Choice**	**Section C (Either/ or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
K1	**5**			**5**	**3.57**	**14.28**
K2	**5**	**10**		**15**	**10.71**	
K3		**20**	**32**	**52**	**37.14**	**37.14**
K4		**20**	**16**	**36**	**25.71**	**25.17**
K5			**32**	**32**	**22.85**	**22.85**
Marks	**10**	**50**	**80**	**140**	**100**	**100**
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	**Unit**	**CO**	**K-level**		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	MANAGEMENT INFORMATION SYSTEM			
Course Code	23PCCEC22	**L**	**P**	**C**
Category	ELECTIVE - IV	6	-	5

COURSE OBJECTIVES:

- To understand the basic concept of Information system
- To identify the importance of MIS
- To understand the Functional Management Information System
- To learn the role of system analyst
- To apply the concept of Enterprise Resource Planning

UNIT - I Information System **18**

Introduction to information system - Management - Structure and Activities - Information needs and sources - Types of management decisions and information need - System classification - Elements of system, input, output, process and feedback.

UNIT - II Types of Management Information Systems **18**

Transaction Processing Information System - Information system for managers - Intelligence information system – Decision support system - Executive information systems.

UNIT - III Functional Management Information Systems **18**

Functional Management Information System: Production Information system - Marketing Information Systems - Accounting Information System - Financial Information System - Human Resource Information System.

UNIT - IV System design and Database **18**

System Analysis and Design: The work of a system analyst - SDLC- System design – Requirement analysis - Data flow diagram - Relationship diagram - Design -Implementation - Evaluation and maintenance of MIS - Database System: Overview of Database - Components - Advantages and disadvantages of database.

UNIT - V Enterprise Resource Planning **18**

Enterprise Resource Planning (ERP) System - Benefits of the ERP - How ERP is different from conventional packages - Need for ERP - ERP components - Selection of ERP Package - ERP implementation - Customer Relationship management - Organisation & Types - Decision Making - Data & information - Characteristics & Classification of information - Cost & value of information - Various channels of information and MIS

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Azam, M (2012), "Management Information System", McGrawHill Education, Noida.
- Laudon, K., Laudon, J. and Dass, R. (2010), "Management Information Systems – Managing the Digital Firm", 11th Edition, Pearson, Noida.
- Murdick, R.G., Ross, J.E. and Claggett, J.R. (2011), "Information Systems for Modern Management", 3rd Edition, PHI, New Delhi.Bharath Law House, New Delhi

BOOKS FOR REFERENCES:

- O'Brien, J.A., Morakas, G.M. and Behl, R. (2009), "Management Information Systems", 9th Edition, Tata McGraw-Hill Education, Noida.
- Saunders, C.S. and Pearson, K.E. (2009), "Managing and Using Information Systems", 3rd Edition, Wiley India Pvt. Ltd., New Delhi.
- Stair, R. and Reynolds, G. (2012), "Information Systems", 10th Edition, Cengage Learning, Noida.

WEB RESOURCES:

- **https://cleartax.in/g/terms/mis-meaning-mis-full-form-marketing-information-system/amp**
- **https://www.techtarget.com/searchitoperations/definition/MIS-management-information-systems**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Identify the basic concept of Information system	**K1 to K5**
CO2	Discuss the importance of MIS	**K1 to K5**
CO3	Explain the functional MIS	**K1 to K5**
CO4	Describe the role of system analyst	**K1 to K5**
CO5	Apply the concept of Enterprise resource planning	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1	1	2	2	1	2	1	2	2	
CO2	2	2	2	2	1	2	1	2	2	
CO3	3	3	3	3	1	2	1	2	3	

CO4	3	3	3	3	2	3	2	3	3	
CO5	3	3	3	3	2	3	2	3	3	

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	1	1	2	2	1
CO 2	2	2	2	2	1
CO 3	3	3	3	3	1
CO 4	3	3	3	3	2
CO 5	3	3	3	3	2
WEITAGE	12	12	13	13	7
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS					

LESSON PLAN:

UNIT	COURSE NAME	HRS	PEDAGOGY
I	Introduction to information system - Management - Structure and Activities - Information needs and sources - Types of management decisions and information need - System classification - Elements of system, input, output, process and feedback.	18	THEORY
II	Transaction Processing Information System - Information system for managers - Intelligence information system – Decision support system - Executive information systems.	18	THEORY
III	Functional Management Information System: Production Information system - Marketing Information Systems - Accounting Information System - Financial Information System - Human Resource Information System.	18	THEORY
IV	System Analysis and Design: The work of a system analyst SDLC- System design – Requirement analysis - Data flow diagram - Relationship diagram - Design -Implementation - Evaluation and maintenance of MIS - Database System: Overview of Database - Components - Advantages and disadvantages of database.	18	THEORY
V	Enterprise Resource Planning (ERP) System - Benefits of the ERP - How ERP is different from conventional packages - Need for ERP - ERP components - Selection of ERP	18	THEORY

	Package - ERP implementation - Customer Relationship management - Organisation & Types - Decision Making - Data & information - Characteristics & Classification of information - Cost & value of information - Various channels of information and MIS		

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A** **MCQs**		**Section B Either or Choice**	**Section C Either or Choice**
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
CI AII	**CO3**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO4	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	**2**			**2**	**3.6**	**7.2**
	K2	**2**			**2**	**3.6**	
	K3		**20**		**20**	**35.7**	**35.7**
	K4			**32**	**32**	**57.1**	**57.1**
	K5						
	Marks	**4**	**20**	**32**	**56**	**100**	**100**
CIA II	**K1**	**2**			**2**	**3.6**	**7.2**
	K2	**2**			**2**	**3.6**	
	K3		**20**		**20**	**35.7**	**35.7**
	K4			**32**	**32**	**57.1**	**57.1**
	K5						
	Marks	**4**	**20**	**32**	**56**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 – Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	**COs**	**K - Level**	**Section A (MCQs)**		**Section B (Either / or Choice) With K - LEVEL**	**Section C (Either / or Choice) With K - LEVEL**
			No. of Questions	**K – Level**		
1	**CO1**	**K1 – K5**	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	**CO2**	**K1 – K5**	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	**CO3**	**K1 – K5**	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	**CO4**	**K1 – K5**	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	**CO5**	**K1 – K5**	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	**Section A (Multiple Choice Questions)**	**Section B (Either or Choice**	**Section C (Either/ or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
K1	**5**			**5**	**3.57**	**14.28**
K2	**5**	**10**		**15**	**10.71**	
K3		**20**	**32**	**52**	**37.14**	**37.14**
K4		**20**	**16**	**36**	**25.71**	**25.17**
K5			**32**	**32**	**22.85**	**22.85**
Marks	**10**	**50**	**80**	**140**	**100**	**100**
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	**Unit**	**CO**	**K-level**		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

M.COM., CA

Syllabus

Program Code: PCC

2023 - Onwards

MANNAR THIRUMALAI NAICKER COLLEGE

(AUTONOMOUS)

Re-accredited with "A" Grade by NAAC

PASUMALAI, MADURAI – 625 004

MANNAR THIRUMALAI NAICKER COLLEGE (AUTONOMOUS), MADURAI – 625 004

M. COM C.A CURRICULUM

(For the students admitted from the academic year 2023-2024 onwards)

Course Code	Title of the Course	Hrs	Credits	Maximum Marks		
				Int	Ext	Total
FIRST SEMESTER						
Part – III	**Core courses**					
23PCCCC11	BUSINESS FINANCE	6	4	25	75	100
23PCCCC12	DIGITAL MARKETING	6	4	25	75	100
23PCCCC13	BANKING AND INSURANCE	6	4	25	75	100
Part – III	**Elective courses**					
23PCCEC11	INTRODUCTION TO INDUSTRY 4.0	6	5	25	75	100
23PCCEC12	DATABASE MANAGEMENT SYSTEM	6	5	25	75	100
	Total	30	22	125	375	500
SECOND SEMESTER						
Part – III	**Core courses**					
23PCCCC21	STRATEGIC COST MANAGEMENT	6	4	25	75	100
23PCCCC22	CORPORATE ACCOUNTING	6	4	25	75	100
23PCCCC23	SETTING UP OF BUSINESS ENTITIES	6	4	25	75	100
Part – III	**Elective courses**					
23PCCEC21	DATA MINING AND DATA INTERPRETATION	6	5	25	75	100
23PCCEC22	MANAGEMENT INFORMATION SYSTEM	6	5	25	75	100
	Total	30	22	125	375	500

23PCCINT1	Internship* Industrial Activity	-	-	-	-	-

*** At the end of the semester, all the students should complete their internship during the summer vacation (April - May) for which the marks with due credits will be awarded in the third semester.**

Course Code	Title of the Course	Hrs	Credits	Maximum Marks		
				Int	Ext	Total
THIRD SEMESTER						
Part – III	**Core courses**					
23PCCCC31	TAXATION	6	5	25	75	100
23PCCCC32	RESEARCH METHODOLOGY	6	5	25	75	100
23PCCCC33	COMPUTER APPLICATIONS IN BUSINESS	6	4	25	75	100
Part – III	**Elective course**					
23PCCEC31	PYTHON AND R FOR DATA ANALYTICS	4	3	25	75	100
Part - IV	**Skill Enhancement course**					
23PCCSP31	PYTHON AND R FOR DATA ANALYTICS - LAB	2	2	25	75	100
Part - IV	**Non Major Elective course**					
23PCCNM31	OFFICE AUTOMATION - LAB	6	3	25	75	100
23PCCINT1	INTERNSHIP / INDUSTRIAL ACTIVITY	-	2	25	75	100
	Total	30	24	175	525	700
FOURTH SEMESTER						
Part – III	**Core courses**					
23PCCCC41	CORPORATE AND ECONOMIC LAWS	6	5	25	75	100
23PCCCC42	HUMAN RESOURCE ANALYTICS	6	5	25	75	100
23PCCCC43	INTERNATIONAL BUSINESS	6	4	25	75	100
23PCCPRJ1	PROJECT WITH VIVA	6	3	25	75	100
Part – III	**Elective course**					
23PCCEC41	CYBER AND DATA SECURITY	4	3	25	75	100
Part – IV	**Skill Enhancement course**					
23PCCSP41	PHP PROGRAMMING - LAB	2	2	25	75	100
Part - V	**Extension Activities**					
23PEXTG41	EXTENSION ACTIVITY	-	1	40	60	100
	Total	30	23	190	510	700
	Grand Total	120	91	615	1785	2400


THIRD SEMESTER

Course Name	TAXATION			
Course Code	23PCCCC31	**L**	**P**	**C**
Category	CORE	6	-	5

COURSE OBJECTIVES:

- To identify deductions from gross total income and computation of income for different classes of assessees
- To understand the procedure for filing of returns and tax planning
- To analyse the structure on international business taxation
- To assess Goods and Services Tax and filing GST returns
- To compute customs duty as per Customs Act

UNIT - I ASSESSMENT OF PERSONS **18**

Tax Exemptions for Agricultural Income-Deductions to be made in computing total income (80G, 80GGB & 80GGC, 80IA, 80IAB, 80IAC, 80IB, 80IBA, 80ID, 80IE, 80JJA, 80JJAA, 80LA, 80M, 80P, 80PA) – Assessment of Firms, AOP, BOI, Company and Co-operative society.

UNIT - II TAX RETURNS AND TAX PLANNING **18**

Return of income: Statutory obligation, Return Forms, Time for filing of return, Revised return, Modified return–Assessment -Tax Deducted at Source - Advance payment of Tax: Persons liable to pay, Due date, Computation - Payment in pursuance of order of Assessing Officer, Consequences on non-payment. – Tax planning, Tax avoidance and Tax evasion - Tax planning and specific management decisions: Make or buy, Own or lease, Retain or replace, Shut down or continue.

UNIT - III INTERNATIONAL BUSINESS TAXATION **18**

International business taxation - Taxation of Non-resident - Double taxation relief - Transfer pricing and other anti-avoidance measure - Application and interpretation of tax treaties - (Double taxation avoidance agreement - DTAA) - Equalization levy.

UNIT - IV GOODS AND SERVICES TAX **18**

Goods and Services Tax: GST Act, 2017 - Registration – Procedure for registration under Schedule III – Amendment of registration – Rates of Tax of IGST, CGST, SGST/UGTST- Assessment of GST- Self-assessment – Provisional assessment – Scrutiny of returns – Assessment of non filers of returns – Assessment of unregistered persons – Assessment in certain special cases – Tax Invoice – Credit and Debit Notes – Payment of Tax – Input Tax Credit -Anti profiteering –- Filing of Returns- Penalties – Prosecution – Appeal and Revision.

UNIT - V CUSTOMS ACT 1962 **18**

Customs Act, 1962:Important Definitions – Basics – Importance of Customs Duty – Constitutional authority for levy of Customs Duty – Types of Customs Duty – Prohibition of Importation and Exportation of goods – Valuation of goods for Customs Duty – Transaction Value – Assessable Value – Computation of Assessable Value and Customs Duty.

Total Lecture Hours	**90**

BOOKS FOR STUDY:

- Vinod Singhania and Kapil Singhania, Direct Taxes Law & Practice Professional Edition, Taxmann Publications, New Delhi
- Mehrotra H.C. and Goyal S.P, Income Tax including Tax Planning & Management, Sahitya Bhawan Publications, Agra
- Sekar G, "Direct Taxes" - A Ready Refresher, Sitaraman C. & Co Pvt.Ltd., Chennai.
- Balachandran V, (2021) Textbook of GST and Customs Law, Sultan Chand and Sons, New Delhi
- Vandana Bangar and Yogendra Bangar, "Comprehensive Guide to Taxation" (Vol. I and II), Aadhya Prakashan, Prayagraj (UP).

BOOKS FOR REFERENCES:

- Sha R. G. and Usha Devi N.,(2022) "Income Tax" (Direct and Indirect Tax), Himalaya Publishing House, Mumbai.
- Girish Ahuja and Ravi Gupta, "Practical Approach to Direct and Indirect Taxes: Containing Income Tax and GST", Wolters Kluwer India Private Limited
- Swetha Jain, GST Law & Practice, Taxmann Publishers Pvt. Ltd, Chennai.
- Daty V.S., "GST - Input Tax Credit", Taxmann Publishers, Chennai.
- Anurag Pandy, "Law & Practices of GST and Service Tax"- Sumedha Publication House, New Delhi.

WEB RESOURCES:

- **https://www.icsi.edu/media/webmodules/16112021_Advance_Tax_Laws.pdf**
- **https://www.icsi.edu/media/webmodules/Final_Direct_Tax_Law_17_12_2020.pdf**
- **https://www.icsi.edu/media/webmodules/TL_Final_pdf_25102021.pdf**

Nature of Course	EMPLOYABILITY		✓	SKILL ORIENTED			ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		✓	GLOBAL		
Changes Made in the Course	Percentage of Change		**100**	No Changes Made			New Course			

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Apply the provisions of income tax to determine taxable income	**K1 to K5**
CO2	Plan taxes	**K1 to K5**
CO3	Illustrate the nuances of international business taxation	**K1 to K5**
CO4	Apply the provisions of GST	**K1 to K5**
CO5	Summarise the provisions of Customs Act	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	3	3				
CO2	3	3	3	3	3	3				

CO3	3	3	3	3	3	3				
CO4	3	3	3	3	3	3				
CO5	3	3	3	3	3	3				

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	2	3		
CO 2	2	2	3		
CO 3	3	2	3		
CO 4	3	2	3		
CO 5	3	3	3		
WEIGHTAGE	14	11	15		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	2.8	2.2	3.0		

LESSON PLAN:

UNIT	TAXATION	HRS	PEDAGOGY
I	Assessment of persons	18	Chalk and talk, Power Point Presentation, Video Lectures
II	Tax Returns and Tax planning	18	Chalk and talk, Power Point Presentation, Video Lectures
III	International business taxation	18	Chalk and talk, Power Point Presentation, Video Lectures
IV	Goods and Services Tax	18	Chalk and talk, Power Point Presentation, Video Lectures
V	Customs Act, 1962	18	Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1 , K2	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K1 , K2	2(K4, K4)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1 , K2	2(K2, K2)	2(K4, K4)
	CO4	**K1 – K5**	2	K1, K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	**2**			**2**	**3.57**	**7**
	K2	**2**			**2**	**3.57**	
	K3		**10**		**10**	**17.85**	**18**
	K4		**10**	**16**	**26**	**46.43**	**46**
	K5			**16**	**16**	**28.58**	**29**
	Marks	**4**	**20**	**32**	**56**	**100**	**100**
CIA II	**K1**	**2**			**2**	**3.57**	**7**
	K2	**2**			**2**	**3.57**	
	K3		**10**		**10**	**17.85**	**18**
	K4		**10**	**16**	**26**	**46.43**	**46**
	K5			**16**	**16**	**28.58**	**29**
	Marks	**4**	**20**	**32**	**56**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	Cos	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K2, K2)	2 (K3, K3)
2	CO2	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K4,K4)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
4	CO4	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	4	4
K2	5	10		15	11	11
K3		20	32	52	37	37
K4		20	16	36	25	25
K5			32	32	23	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K2**	
		OR		
11. b)	**Unit - I**	**CO1**	**K2**	
12. a)	**Unit - II**	**CO2**	**K3**	
		OR		
12. b)	**Unit - II**	**CO2**	**K3**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K4**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K4**	
15. a)	**Unit - V**	**CO5**	**K3**	
		OR		
15. b)	**Unit - V**	**CO5**	**K3**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K3**	
		OR		
16. b)	**Unit - I**	**CO1**	**K3**	
17. a)	**Unit - II**	**CO2**	**K4**	
		OR		
17. b)	**Unit - II**	**CO2**	**K4**	
18. a)	**Unit - III**	**CO3**	**K5**	
		OR		
18. b)	**Unit - III**	**CO3**	**K5**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	RESEARCH METHODOLOGY			
Course Code	23PCCCC32	**L**	**P**	**C**
Category	CORE	6	-	5

COURSE OBJECTIVES:

- To understand the fundamentals of research
- To construct theoretical design and formulate hypotheses
- To evaluate the data collection techniques
- To perform parametric and non-parametric tests
- To enhance report writing skills and develop ethical conduct in research

UNIT - I INTRODUCTION TO RESEARCH METHODOLOGY 18

Research: Definition – Objectives – Motivations for research – Types of research – Maintaining objectivity in research – Criteria of good research – Applications of research in business – Formulating a research problem – Literature Review – Reasons for review – Reference management tools - Identification of research gap – Framing of objectives.

UNIT - II HYPOTHESIS TESTING AND RESEARCH DESIGN 18

Hypothesis – Formulation of hypothesis – Testing of hypothesis – Type I and Type II errors – Research design – Types of research design - Methods of data collection: Census, Sample survey, Case study – Sampling: Steps in sampling design, Methods of sampling – Testing of reliability and validity – Sampling errors.

UNIT - III DATA COLLECTION 18

Variable: Meaning and types - Techniques of data collection – Primary data: Meaning, Advantages and limitations – Techniques: Interview, Schedule, Questionnaire, Observation –Secondary Data: Meaning and sources.

UNIT - IV DATA ANALYSIS 18

Data Analysis – Uni-variate Analysis: Percentile, Mean, Median, Mode, Standard deviation, Range, Minimum, Maximum, Independent sample t-test – Bi-variate analysis: Simple correlation, Simple Regression, Chi-square, Paired samples t-test, ANOVA, Man-Whitney test – Wilcoxon signed rank test – Kruskal Wallis test (Simple problems)

UNIT - V PREPARATION OF RESEARCH REPORT 18

Report preparation – Guidelines and precautions for interpretation – Steps in Report writing - Style of research reports (APA, MLA, Anderson, and Harvard) – Mechanics of report writing –Ethics in Research – Avoiding plagiarism – Plagiarism checker tools – Funding agencies for business research.

Total Lecture Hours 90

Theory: 80%; Problems: 20%

BOOKS FOR STUDY:

- Tripathi, (2014) "Research Methodology in Management and Social Sciences". Sultan Chand & Sons, New Delhi.
- Kothari C.R and Gaurav Garg, (2020) "Research Methodology" – Methods and Techniques. New Age International (P) Limited, New Delhi.
- Krishnaswami and Ranganathan, (2011) "Methodology of Research in Social Sciences", Himalaya Publishing House, Mumbai.

BOOKS FOR REFERENCES:

- Donald R. Cooper, Pamela S. Schindler and J. K. Sharma, "Business Research Methodology", 12th Edition, Tata Mcgraw Hill, Noida (UP).
- Sashi K. Guptha and Parneet Rangi, (2018) "Research Methodology" , Kalyani Publisher, Ludhiana.
- SharmaR D and Hardeep Chahal, (2004) "Research Methodology In Commerce and Management", Anmol Publications, New Delhi

WEB RESOURCES:

- **https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_research_method_final.pdf**
- **https://ccsuniversity.ac.in/bridge-library/pdf/MPhil%20Stats%20Research%20Methodology-Part1.pdf**
- **https://prog.lmu.edu.ng/colleges_CMS/document/books/EIE%20510%20LECTURE%20NOTES%20first.pdf**
- **https://www.statisticssolutions.com/academic-research-consulting/data-analysis-plan/**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL	✓	GLOBAL	
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		K LEVEL
After studying this course, the students will be able to:		
CO1	Recall the research concepts and recognise the research problem	K1 to K5
CO2	Formulate research hypothesis and determine the sample size	K1 to K5
CO3	Select appropriate method for data collection	K1 to K5
CO4	Make inferences based on statistical tests	K1 to K5
CO5	Draft a research report avoiding plagiarism	K1 to K5

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	2	3				
CO2	3	3	3	2	2	3				
CO3	3	3	3	2	2	3				
CO4	3	3	3	2	2	3				
CO5	3	3	3	2	2	3				

S- STRONG M – MEDIUM L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2	3	3		
CO 2	2	3	3		
CO 3	2	3	3		
CO 4	2	3	3		
CO 5	2	3	3		
WEIGHTAGE	10	15	15		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	2.0	3.0	3.0		

LESSON PLAN:

UNIT	RESEARCH METHODOLOGY	HRS	PEDAGOGY
I	Introduction to Research Methodology	18	Chalk and talk, Power Point Presentation, Video Lectures
II	Hypothesis Testing and Research Design	18	Chalk and talk, Power Point Presentation, Video Lectures
III	Data Collection	18	Chalk and talk, Power Point Presentation,

			Video Lectures
IV	Data Analysis	**18**	**Chalk and talk, Power Point Presentation, Video Lectures**
V	Preparation of Research Report	**18**	**Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1 , K2	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K1 , K2	2(K4, K4)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1 , K2	2(K2, K2)	2(K3, K3)
	CO4	**K1 – K5**	2	K1, K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	Section A (Multiple Choice Questions)	Section B (Either / Or Choice)	Section C (Either / Or Choice)	Total Marks	% of (Marks without choice)	Consolidate of %
CIA I	K1	2			2	3.57	7
	K2	2			2	3.57	
	K3		10		10	17.85	18
	K4		10	16	26	46.43	46
	K5			16	16	28.58	29
	Marks	4	20	32	56	100	100
CIA II	K1	2			2	3.57	25
	K2	2	10		12	21.43	
	K3		10	16	26	46.43	46
	K4				0	0	0
	K5			16	16	28.57	29
	Marks	4	20	32	56	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	Cos	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K2, K2)	2 (K3, K3)
2	CO2	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K4,K4)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
4	CO4	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	**Section A (Multiple Choice Questions)**	**Section B (Either or Choice**	**Section C (Either/ or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
K1	5			5	**3.57**	4
K2	5	10		15	**10.71**	11
K3		20	32	52	**37.14**	37
K4		20	16	36	**25.71**	25
K5			32	32	**22.86**	23
Marks	**10**	**50**	**80**	**140**	**100**	**100**
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K2**	
		OR		
11. b)	**Unit - I**	**CO1**	**K2**	
12. a)	**Unit - II**	**CO2**	**K3**	
		OR		
12. b)	**Unit - II**	**CO2**	**K3**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K4**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K4**	
15. a)	**Unit - V**	**CO5**	**K3**	
		OR		
15. b)	**Unit - V**	**CO5**	**K3**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K3**	
		OR		
16. b)	**Unit - I**	**CO1**	**K3**	
17. a)	**Unit - II**	**CO2**	**K4**	
		OR		
17. b)	**Unit - II**	**CO2**	**K4**	
18. a)	**Unit - III**	**CO3**	**K5**	
		OR		
18. b)	**Unit - III**	**CO3**	**K5**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	COMPUTER APPLICATIONS IN BUSINESS			
Course Code	23PCCCC33	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To understand the fundamentals of SPSS
- To compare the values obtained in t-test and ANOVA
- To perform regression and non-parametric tests
- To create company, groups and ledgers and obtain financial statements using Tally Prime
- To understand inventory management and account for goods and services tax

UNIT - I Introduction to SPSS **18**

Opening a data file in SPSS – Variable view – Data view – Entering data into the data editor – Saving the data file– Table creation – Descriptive statistics: Percentile values, Measures of central tendency, Measures of dispersion, Distribution – Cronbach's Alpha test – Charts and graphs - Editing and copying SPSS output.

UNIT - II Parametric Tests in SPSS **18**

Compare means: One-sample t-test, Independent Samples t-test, Paired-samples t-test and One-way ANOVA, Two-way ANOVA - Correlation: Bi-variate, Partial and Multiple. Simple linear regression.

UNIT - III Non-parametric Tests in SPSS **18**

Chi-square test - Mann Whitney's test for independent samples – Wilcoxon matched pairs sample test– Friedman's test – Wilcoxon signed rank test – Kruskal Wallis test

UNIT - IV Introduction to Tally Prime **18**

Tally Prime: Introduction – Starting Tally Prime – Creation of a Company - Selecting company - Shutting a company - Altering company– Creating Accounting groups and ledgers – Vouchers – Practical problems for a new and existing business and not-for profit organisation. Accounting reports: Introduction – Displaying Trial balance, Profit and Loss Account, Balance sheet, Day book, Purchase register, Sales register, Cash flow/Funds flow and ratio analysis – Practical problems..

UNIT - V Inventory and GST in Tally Prime **18**

Inventory: Introduction to Inventory Masters – Creation of stock group – Creation of Godown – Creation of unit of measurement – Creation of stock item – Entering inventory details in Accounting vouchers – Practical problems. GST: Introduction – Enabling GST – Defining tax details – Entries in Accounting vouchers – View invoice report – Practical problems.

Total Lecture Hours **90**

100% Practical

BOOKS FOR STUDY:

- Sundara Pandian. P, Muthulakshmi. S & Vijayakumar, T (2022), Research Methodology & Applications of SPSS in Social Science Research, Sultan Chand & Sons, New Delhi
- Morgan George. A, Barrett C Karen, Leech L Nancy and Gloeckner Gene W (2019), IBM SPSS for Introductory Statistics, Routledge, 6th Edition, U.K
- Official Guide to Financial Accounting using Tally Prime (2021), BPB Publication, Delhi
- Chheda Rajesh, U (2020), Learn Tally Prime, Ane Books, 4th Edition, New Delhi

BOOKS FOR REFERENCES:

- Kulas John, Renata Garcia Prieto Palacios Roji, Smith Adams (2021), IBM SPSS Essentials: Managing and Analysing Social Sciences Data, 2nd Edition, John Wiley & Sons Inc., New York
- Rajathi. A, Chandran. P (2011), SPSS for You, MJP Publishers, Chennai
- Sangwan Rakesh (2022), Learn Tally Prime in English, Ascend Prime Publication, Pilani
- Lodha Roshan (2022), Tally Prime with GST Accounting, Law Point Publication, Kolkata

WEB RESOURCES:

- **https://www.spss-tutorials.com/basics/**
- **https://www.tallyclub.in/**
- **https://tallysolutions.com/business-guides/inventory-management-in-tally-erp9/**

Nature of Course	EMPLOYABILITY		SKILL ORIENTED	✓	ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Construct data file in SPSS	**K1 to K5**
CO2	Examine Means of samples	**K1 to K5**
CO3	Apply non-parametric tests	**K1 to K5**
CO4	Construct a company, form groups and get automated financial statements	**K1 to K5**
CO5	Plan for automation of inventory	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	2	2	3	3				
CO2	3	3	2	2	3	3				
CO3	3	3	2	2	3	3				

CO4	3	3	2	3	3	3				
CO5	3	3	2	3	3	3				

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2	3	3		
CO 2	2	3	3		
CO 3	2	3	3		
CO 4	3	3	3		
CO 5	3	3	3		
WEIGHTAGE	12	15	15		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	2.4	3.0	3.0		

LESSON PLAN:

UNIT	COMPUTERS IN BUSINESS	HRS	PEDAGOGY
I	Introduction to SPSS	18	Chalk and talk, Power Point Presentation, Video Lectures
II	Parametric Tests in SPSS	18	Chalk and talk, Power Point Presentation, Video Lectures
III	Non-parametric Tests in SPSS	18	Chalk and talk, Power Point Presentation, Video Lectures
IV	Introduction to Tally Prime	18	Chalk and talk, Power Point Presentation, Video Lectures
V	Inventory and GST in Tally Prime	18	Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment

Course Name	PYTHON AND R FOR DATA ANALYTICS			
Course Code	23PCCEC31	**L**	**P**	**C**
Category	ELECTIVE	4	-	3

COURSE OBJECTIVES:

- To understand the basics of Python
- To learn Bio Python
- To understand the features of R
- To learn data handling
- To identify the use of bio conductor

UNIT - I Introduction to Python **12**

Installation of Python - Variables - Types - Strings - Jupiter notebooks - Objects - Functions - Control structures - Operators - User-Defined Functions - Data Structures - List,Tuple -Dictionary.

UNIT - II Numpy and Scipy **12**

Numpy library – Ndarrray - Basic Operations - Conditions and Boolean Arrays - Shape Manipulation - Array Manipulation - General Concepts - Structured Arrays - Reading and Writing Array on Files - SciPy Library for Statistics: linalg sub package - Normality- Correlation - t-Test- Chi-Test- ANOVA.

UNIT - III R Programming **12**

Introduction to R - Installing R - Features of R - Reserved words - Operators, -Strings - Data types and operations - Basic Data types – Vectors - List, Matrices – Arrays - Factors - Data frames - Flow control - Decision making - Loop Control Statements - Loops.

UNIT - IV Visualisation using R **12**

R as a Deluxe Calculator - Creating Objects and Assigning Values - Graphics: Simple Plotting - Advanced Plotting - Using Color in Plots - Using Subscripts and Superscripts in Graph Labels - Interactive Graphics - Saving Graphical Output - Loops.

UNIT - V Data Handling **12**

Feature selection models - Data Preprocessing - Normalization - Methods - Data reduction - Data sampling - Heat maps - Classification: Based on analogy - rules - probabilities - statistics and prediction with R.

Total Lecture Hours **60**

BOOKS FOR STUDY:

- Fabio Nelli (2018), "Python Data Analytics with Pandas,Numpy and Matplotlib", 2nd Edition, Apress, New York.
- Wes McKinney, "Python for Data Analysis", 2nd Edition, O'Reilly publication, USA.
- Jeeva Jose (2018),"Beginner's Guide for Data Analysis using R Programming", Khanna Book Publishing Co. Ltd., New Delhi.
- Norman Matloff (2011), "The Art of R programming - A tour of statistical software design", 1st Edition, No Starch Press, USA.

BOOKS FOR REFERENCES:

- Mark Lutz (2009), "Learning Python", O'Reilly Media Publication, USA.
- Martin C Brown (2001), "Python: The Complete Reference". McGraw-Hill Media, USA.
- Gentleman R, Carey V.J, Huber W, Irizarry, RA, and Dudoit, S, "Bioinformatics and Computational Biology Solutions Using R and Bioconductor", Springer, New York.

WEB RESOURCES:

- **www.sthurlow.com/python/**
- **www.learnpython.org**
- **www.codecademy.com/en/tracks/python**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Describe the basics of Python	**K1 to K5**
CO2	Explain the necessity for programming in biology	**K1 to K5**
CO3	Apply R programming	**K1 to K5**
CO4	Discuss Data handling	**K1 to K5**
CO5	Apply R in Phylogenetics	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	2	1	2				
CO2	2	2	2	2	1	2				
CO3	3	3	3	3	2	3				
CO4	3	3	3	3	3	3				
CO5	3	3	3	3	3	3				

S- STRONG	M – MEDIUM	L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	1	2	3		
CO 2	1	2	2		
CO 3	2	3	3		
CO 4	3	3	3		
CO 5	3	3	3		
WEIGHTAGE	10	13	14		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	2	2.6	2.8		

LESSON PLAN:

UNIT		HRS	PEDAGOGY
I	Introduction to Python	12	Chalk and talk, Power Point Presentation, Video Lectures
II	Numpy and Scipy	12	Chalk and talk, Power Point Presentation, Video Lectures
III	R Programming	12	Chalk and talk, Power Point Presentation, Video Lectures
IV	Visualisation using R	12	Chalk and talk, Power Point Presentation, Video Lectures
V	Data Handling	12	Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
CI AII	**CO3**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K4, K4)
	CO4	**K1 – K5**	2	K2,K2	2(K3, K3)	2(K4, K4)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	2			2	**6.67**	**13.33**
	K2	2			2	**6.67**	
	K3		5		5	**33.33**	**16.67**
	K4			8	8	**53.33**	**26.67**
	K5		5	8	13	**86.66**	**43.33**
	Marks	**4**	**10**	**16**	**30**	**186.66**	**100**
CIA II	**K1**	2			2	**6.67**	**30**
	K2	2	5		7	**40**	
	K3			8	8	**53.33**	**26.67**
	K4		5		5	**33.33**	**16.66**
	K5			8	8	**53.33**	**26.67**
	Marks	**4**	**10**	**16**	**30**	**186.66**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	Cos	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	6.67	6.67
K2	5	5		10	20	13.33
K3		5	16	26	69.33	34.67
K4		5	8	18	48	24
K5			16	16	42.66	21.33
Marks	10	25	40	75	186.66	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K4**	
		OR		
16. b)	**Unit - I**	**CO1**	**K4**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	PYTHON AND R FOR DATA ANALYTICS - LAB			
Course Code	23PCCSP31	**L**	**P**	**C**
Category	ELECTIVE	-	2	2

COURSE OBJECTIVES:

- To learn how to write loops and decision statements in Python.
- To learn how to use lists, tuples, and dictionaries in Python.
- To learn statistical programming, computation, graphics, and modelling.
- To learn Writing functions and use R in an efficient way.
- To learn the basic types of statistical models.

List of Programs	**30**

1. Programs using For and while statements in Python.
2. Programs using decision making statements in Python.
3. Programs using user defined functions in Python.
4. List creation, accessing elements.
5. Program to find the size of a Tuple.
6. Program to find the sum of all items in a dictionary.
7. Program to perform array manipulation using Numpy
8. Making operations on if-else statements in R.
9. Programs on For loop in R.
10. Programs on While loop in R.
11. Implement different String Manipulation functions in R.
12. Perform various operations on lists in R.
13. Creating and operations on factors in R.
14. Implement different data structures in R (Vectors, Lists, and Data Frames).
15. Create pie charts and bar charts using R.

Total Lecture Hours	**30**

BOOKS FOR STUDY:

- Mark Lutz (2009), "Learning Python", O"Reilly Media Publication, USA.
- Jared P.Lander, R for Everyone: Advanced Analytics and Graphics,2 nd Edition, Pearson Education,2018.
- S.R.Mani Sekharand T.V.Suresh Kumar, Programming with R, 1 st Edition,CENGAGE,2017.

BOOKS FOR REFERENCES:

- R. Nageswara Rao, "Core Python Programming", Dreamtech
- Think Python, Allen B.Downey, Shroff Publishers & Distributors Pvt. Ltd., Fifth Indian Reprint, August 2018
- Data Visualization with R: 111 Examples by Thomas Rahlf, Springer, 2020

WEB RESOURCES:

- **https://www.tutorialspoint.com/r/index.htm**
- **https://www.r-project.org/**

Nature of Course	EMPLOYABILITY		SKILL ORIENTED	✓	ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Understand the basic concepts of Python Programming.	**K1 to K5**
CO2	Able to work with built in and user defined functions in Python.	**K1 to K5**
CO3	Show the installation of R Programming Environment.	**K1 to K5**
CO4	Make use of different R Data Structures.	**K1 to K5**
CO5	Analyze the data sets using R programming	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	2	2	2	2	2	2	2
CO2	2	3	2	2	2	3	2	2	2	2
CO3	3	1	2	3	3	2	3	3	3	2
CO4	2	2	2	3	3	3	2	3	3	2
CO5	3	3	2	3	3	3	2	3	3	2

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:					
COS	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO 1	**2**	**2**	**2**	**3**	**2**
CO 2	**2**	**2**	**3**	**2**	**3**
CO 3	**3**	**2**	**2**	**2**	**2**
CO 4	**3**	**2**	**3**	**3**	**3**
CO 5	**3**	**2**	**3**	**3**	**3**
WEIGHTAGE	**13**	**10**	**13**	**13**	**13**
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	**87**	**67**	**87**	**87**	**87**

LESSON PLAN:

UNIT	PYTHON AND R FOR DATA ANALYTICS - LAB	HRS	PEDAGOGY
	1. Programs using For and while statements in Python. 2. Programs using decision making statements in Python. 3. Programs using user defined functions in Python. 4. List creation, accessing elements. 5. Program to find the size of a Tuple. 6. Program to find the sum of all items in a dictionary. 7. Program to perform array manipulation using Numpy 8. Making operations on if-else statements in R. 9. Programs on For loop in R. 10. Programs on While loop in R. 11. Implement different String Manipulation functions in R. 12. Perform various operations on lists in R. 13. Creating and operations on factors in R. 14. Implement different data structures in R (Vectors, Lists, and Data Frames). 15. Create pie charts and bar charts using R.	**30**	**Laboratory Experiments**

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)							
Internal	**Cos**	**K Level**	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding& Implementation**	**Debugging & Output**
CIA	**CO1**	**K1**	5				
	CO2	**K2**		5			
	CO3	**K3**			5		
	CO4	**K4**				5	
	CO5	**K5**					5
Question Pattern CIA		**No. of Questions to be asked**	2	2	2	2	2
		No. of Questions to be answered	2	2	2	2	2
		Marks for each question	2.5	2.5	2.5	2.5	2.5
		Total Marks for each section	5	5	5	5	5

Distribution of Marks with K Level CIA									
	K Level	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding**	**Debugging & Output**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
CIA	**K1**	5					5	20	20
	K2		5				5	20	20
	K3			5			5	20	20
	K4				5	5	10	40	40
	K5								
	Marks	**5**	**5**	**5**	**5**	**5**	**25**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)							
S. No.	**Cos**	**K Level**	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding& Implementation**	**Debugging & Output**
1	**CO1**	**K1**	15				
2	**CO2**	**K2**		15			
3	**CO3**	**K3**			15		
4	**CO4**	**K4**				15	
5	**CO5**	**K4**					15
No. of Questions to be Asked			2	2	2	2	2
No. of Questions to be answered			2	2	2	2	2
Marks for each question			7.5	7.5	7.5	7.5	7.5
Total Marks for each section			15	15	15	15	15

Distribution of Marks with K Level								
K Level	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding**	**Debugging & Output**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
K1	15					**15**	**20**	**20**
K2		15				**15**	**20**	**20**
K3			15			15	20	20
K4				15	15	30	40	40
Marks	**15**	**15**	**15**	**15**	**15**	**75**	**100**	**100**
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.								

Course Name	OFFICE AUTOMATION - LAB			
Course Code	23PCCNM31	**L**	**P**	**C**
Category	SKILL	-	6	3

COURSE OBJECTIVES:

- To know how to use the most common Microsoft Office programs
- To be able to create documents for printing and sharing
- To be able to create and share presentations
- To be able to manage and store data in a spreadsheet

List of Programs **90**

MS-WORD

1. Text Manipulation: Write a paragraph about your institution and change the font size and type, Spell check, Aligning and justification of Text
2. Bio data: Prepare a Bio-data.
3. Find and Replace: Write a paragraph about yourself and do the following. Find and Replace - Use Numbering Bullets, Footer and Headers.
4. Tables and manipulation: Creation, Insertion, Deletion (Columns and Rows). Create a mark sheet.
5. Mail Merge: Prepare an invitation to invite your friends to your birthday party. Prepare at least five letters.

MS-EXCEL

6. Data Sorting-Ascending and Descending (both numbers and alphabets)
7. Mark list preparation for a student
8. Individual Pay Bill preparation.
9. Invoice Report preparation.
10. Drawing Graphs. Take your own table.

MS-POWERPOINT

11. Create a slide show presentation for a seminar.
12. Preparation of Organization Charts
13. Create a slide show presentation to display percentage of marks in each semester for all Students
14. Use bar chart (X-axis: Semester, Y-axis: % marks).
15. Use different presentation template different transition effect for each slide

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Comdex Information Technology course tool kit Vikas Gupta, WILEY Dreamtech,2005

BOOKS FOR REFERENCES:

- The Complete Computer upgrade and repair book,3rd edition Cheryl A Schmidt, WILEY Dream tech
- Introduction to Information Technology, ITL Education Solutions limited, Pearson Education. PC Hardware and A + Handbook – Kate J. Chas PHI (Microsoft)

WEB RESOURCES:

- **https://edu.gcfglobal.org/en/subjects/office/**
- **https://support.microsoft.com/en-us/training**
- **https://www.office.com/**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Understand which tasks each of the major Office programs can perform.	**K1 to K5**
CO2	Independently create professional-looking documents, presentations, and spreadsheets.	**K1 to K5**
CO3	Familiar with some advanced Office functions, including Mail Merge (Word) and formulas (Excel).	**K1 to K5**
CO4	Understanding the process of inserting graphics, pictures, and table of contents, Drop Cap	**K1 to K5**
CO5	Set up slide shows and rehearse timings for your slides	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	2	1	2	2	2	2	2
CO2	3	3	2	2	2	2	1	2	2	2
CO3	2	2	2	3	2	3	2	2	2	1
CO4	2	1	2	3	3	3	2	2	2	2
CO5	2	2	3	2	2	2	2	3	1	2

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:					
COS	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO 1	**3**	**2**	**2**	**3**	**3**
CO 2	**3**	**3**	**3**	**3**	**3**
CO 3	**3**	**3**	**3**	**3**	**3**
CO 4	**3**	**3**	**3**	**3**	**3**
CO 5	**3**	**3**	**3**	**3**	**3**
WEIGHTAGE	**15**	**14**	**14**	**15**	**15**
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	**100**	**93.3**	**93.3**	**100**	**100**

LESSON PLAN:

UNIT		HRS	PEDAGOGY
	MS-WORD 1. Text Manipulation: Write a paragraph about your institution and change the font size and type, Spell check, Aligning and justification of Text 2. Bio data: Prepare a Bio-data. 3. Find and Replace: Write a paragraph about yourself and do the following. Find and Replace - Use Numbering Bullets, Footer and Headers. 4. Tables and manipulation: Creation, Insertion, Deletion (Columns and Rows). Create a mark sheet. 5. Mail Merge: Prepare an invitation to invite your friends to your birthday party. Prepare at least five letters. MS-EXCEL 6. Data Sorting-Ascending and Descending (both numbers and alphabets) 7. Mark list preparation for a student 8. Individual Pay Bill preparation. 9. Invoice Report preparation. 10. Drawing Graphs. Take your own table. MS-POWERPOINT 11. Create a slide show presentation for a seminar. 12. Preparation of Organization Charts 13. Create a slide show presentation to display percentage of marks in each semester for all Students 14. Use bar chart (X-axis: Semester, Y-axis: % marks). 15. Use different presentation template different transition effect for each slide	**30**	**Hands on Training**

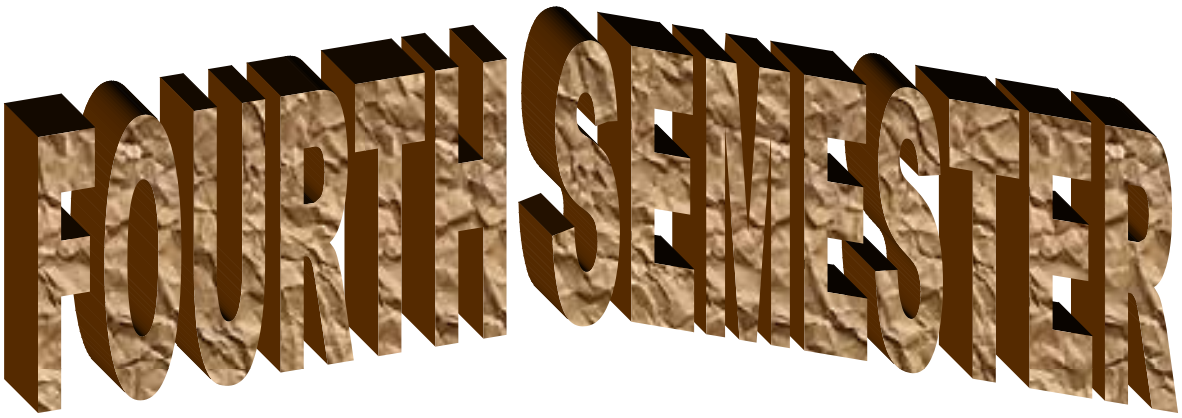
Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)							
Internal	**Cos**	**K Level**	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding & Implementation**	**Debugging & Output**
CI AI	**CO1**	**K1**	5				
	CO2	**K2**		5			
	CO3	**K3**			5		
	CO4	**K3**				5	
	CO5	**K4**					5
Question Pattern CIA		**No. of Questions to be asked**	2	2	2	2	2
		No. of Questions to be answered	2	2	2	2	2
		Marks for each question	2.5	2.5	2.5	2.5	2.5
		Total Marks for each section	5	5	5	5	5

Distribution of Marks with K Level CIA									
	K Level	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Implementation**	**Output**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
CIA	**K1**	5					5	20	20
	K2		5				5	20	20
	K3			5	5		10	40	40
	K4					5	5	20	20
	Marks						25	100	100

K1- Remembering and recalling facts with specific answers
K2- Basic understanding of facts and stating main ideas with general answers
K3- Application oriented- Solving Problems
K4- Examining, analyzing, presentation and make inferences with evidences
K5 – Evaluate, combine, Criticize, Predict, Convince.
CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)							
S. No.	**Cos**	**K Level**	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding& Implementation**	**Debugging & Output**
1	**CO1**	**K1**	15				
2	**CO2**	**K2**		15			
3	**CO3**	**K3**			15		
4	**CO4**	**K3**				15	
5	**CO5**	**K4**					15
Question Pattern		**No. of Questions to be asked**	2	2	2	2	2
		No. of Questions to be answered	2	2	2	2	2
		Marks for each question	7.5	7.5	7.5	7.5	7.5
		Total Marks for each section	15	15	15	15	15

Distribution of Marks with K Level								
K Level	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding**	**Debugging & Output**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
K1	15					15	20	20
K2		15				15	20	20
K3			15	15		30	40	40
K4					15	15	20	20
Marks	**15**	**15**	**15**	**15**	**15**	**75**	**100**	**100**
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.								


FOURTH SEMESTER

Course Name	CORPORATE AND ECONOMIC LAWS			
Course Code	23PCCCC41	**L**	**P**	**C**
Category	CORE	6	-	5

COURSE OBJECTIVES:

- To analyse current and capital account transactions and deal with foreign currency under FEMA Act
- To understand unethical competitive practices and forums for redressal of consumer disputes under Competition Act and Consumer Protection Act
- To understand the procedure for obtaining patents and copyright under The Copyright and Patents Act
- To evaluate offences and punishment for money laundering under Prevention of Money Laundering Act
- To explain the registration and related procedures under Real Estate Act

UNIT - I INTRODUCTION TO FOREIGN EXCHANGE MANAGEMENT ACT, 1999 18

Foreign Exchange Management Act, 1999: Introduction – Definitions – Current Account transactions – Capital Account transactions – Realisation, repatriation and surrender of foreign currency – Remittance of assets – Possession and retention of foreign currency or foreign coins – Authorised person – Adjudication and Appeal.

UNIT - II COMPETITION ACT, 2002 AND CONSUMER PROTECTION ACT, 2019 18

Competition Act, 2002: Objective – Prohibition of Agreements, Prohibition of Abuse of Dominant Position - Regulation of combinations - Competition Commission of India: Duties, Powers and Functions of Commission - Appellate Tribunal.

The Consumer Protection Act, 2019: Objects; Rights of consumers –Consumer Dispute Redressal Commissions - Consumer protection councils – Procedure for admission to complaints – Appeal against orders

UNIT - III LAW RELATING TO INTELLECTUAL PROPERTY RIGHTS 18

Law relating to intellectual property rights: Introduction - The Copyright Act, 1957:Works in which copyright subsist - Ownership of copyright and the rights of the owner - Assignment of copyright - Disputes with respect to assignment of copyright- Term of copyright - Registration of copyright - Infringement of copyright.

The Patents Act, 1970: Inventions not patentable - Applications for patents - Publication and examination of applications - Grant of patents and rights conferred - Register of patents. Trademarks Act, 1999: Conditions for registration - Procedure for and duration of registration - Effect of registration - Collective marks.

UNIT - IV PREVENTION OF MONEY LAUNDERING ACT, 2002 18

Prevention of Money Laundering Act, 2002: Offence of money laundering –Punishment for money laundering –Attachment, adjudication and confiscation - Obligations of Banking Companies, Financial Institutions and Intermediaries –Summons, Search and Seizure– Appellate Tribunal.

UNIT - V REAL ESTATE (REGULATION AND DEVELOPMENT) ACT, 2016 18

Real Estate (Regulation and Development) Act, 2016: Introduction - Salient features of the Act - Registration of Real Estate Project – Registration of Real Estate agents – Functions and duties of promoter – Rights and duties of Allottees – Offences, penalties and adjudication – Specimen agreement for sale to be executed between the promoter and the allottee.

Total Lecture Hours 90

BOOKS FOR STUDY:

- Munish Bandari (2022), A Textbook on Corporate and Economic Laws, 33rd Edition, Bestword Publications, New Delhi
- Amit Vohra and Rachit Dhingra (2022), Economic, Business and Commercial Laws, 18th Edition, Bharat Book House, Siliguri
- Pankaj Garg (2021), Taxmann's Corporate and Economic Laws, 7th Edition, Taxmann Publications, New Delhi

BOOKS FOR REFERENCES:

- Sekar G and Saravana Prasath B (2022), Students' Handbook on Corporate and Economic Law, Commercial Law Publishers (India) Pvt.Ltd.,, New Delhi
- Taxmann (2021), FEMA & FDI Ready Reckoner, 15th Edition, Taxmann Publications, New Delhi
- Ahuja V.K. and Archa Vashishtha (2020), Intellectual Property Rights (contemporary Developments), Thomson Reuters, Toronto, (CAN)

WEB RESOURCES:

- **https://resource.cdn.icai.org/67333bos54154-m3cp1.pdf**
- **https://resource.cdn.icai.org/67335bos54154-m3cp3.pdf**
- **https://resource.cdn.icai.org/68523bos54855-cp1.pdf**
- **https://resource.cdn.icai.org/68524bos54855-cp2.pdf**

Nature of Course	EMPLOYABILITY		✓	SKILL ORIENTED				ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		✓	GLOBAL			
Changes Made in the Course	Percentage of Change			No Changes Made				New Course		✓	

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Recall important provisions of FEMA	**K1 to K5**
CO2	Examine the provisions of the Competition Act, 2002 and Consumer Protection Act to govern commercial competition and protect a consumer	**K1 to K5**
CO3	Summarise the process relating to obtaining copyrights and patents.	**K1 to K5**
CO4	Examine the provisions of Money Laundering Act	**K1 to K5**
CO5	Analyse the provisions relating to regulation of real estate	**K1 to K5**
MAPPING WITH PROGRAM OUTCOMES:		

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	2	3	3				
CO2	3	3	3	2	2	3				
CO3	3	3	2	2	2	3				
CO4	3	3	3	3	3	3				
CO5	3	3	2	2	3	3				

S- STRONG **M – MEDIUM** **L - LOW**

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	2	3		
CO 2	2	2	3		
CO 3	2	2	3		
CO 4	3	2	3		
CO 5	3	2	3		
WEIGHTAGE	13	10	15		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	2.6	2.0	3.0		

LESSON PLAN:

UNIT	CORPORATE AND ECONOMIC LAWS	HRS	PEDAGOGY
I	Introduction to Foreign Exchange Management Act, 1999	18	Chalk and talk, Power Point Presentation, Video Lectures
II	Competition Act, 2002 and Consumer Prptectoion Act 2019	18	Chalk and talk, Power Point Presentation, Video Lectures
III	Law relating to intellectual property rights	18	Chalk and talk, Power Point Presentation, Video Lectures
IV	Prevention of Money Laundering Act, 2002	18	Chalk and talk, Power Point Presentation, Video Lectures
V	Real Estate (Regulation and Development) Act, 2016	18	Chalk and talk, Power Point Presentation,

			Video Lectures, seminar and assignment

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1 , K2	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K1 , K2	2(K4, K4)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1 , K2	2(K2, K2)	2(K4, K4)
	CO4	**K1 – K5**	2	K1, K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	**2**			**2**	**3.57**	**7**
	K2	**2**			**2**	**3.57**	
	K3		**10**		**10**	**17.85**	**18**
	K4		**10**	**16**	**26**	**46.43**	**46**
	K5			**16**	**16**	**28.58**	**29**
	Marks	**4**	**20**	**32**	**56**	**100**	**100**
CIA II	**K1**	**2**			**2**	**3.57**	**25**
	K2	**2**	**10**		**2**	**21.43**	
	K3		**10**		**10**	**17.85**	**18**
	K4			**16**	**26**	**28.57**	**29**
	K5			**16**	**16**	**28.58**	**29**
	Marks	**4**	**20**	**32**	**56**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	Cos	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K2, K2)	2 (K3, K3)
2	CO2	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K4,K4)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
4	CO4	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		10	32	42	30.00	30
K4		30	16	46	32.86	33
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K2**	
		OR		
11. b)	**Unit - I**	**CO1**	**K2**	
12. a)	**Unit - II**	**CO2**	**K3**	
		OR		
12. b)	**Unit - II**	**CO2**	**K3**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K4**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K4**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K3**	
		OR		
16. b)	**Unit - I**	**CO1**	**K3**	
17. a)	**Unit - II**	**CO2**	**K4**	
		OR		
17. b)	**Unit - II**	**CO2**	**K4**	
18. a)	**Unit - III**	**CO3**	**K5**	
		OR		
18. b)	**Unit - III**	**CO3**	**K5**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	HUMAN RESOURCE ANALYTICS			
Course Code	23PCCCC42	**L**	**P**	**C**
Category	CORE	6	-	5

COURSE OBJECTIVES:

- To understand the concept and framework of human resource analytics
- To evaluate the process of human resource analytics and the relevant research tools
- To illustrate the evolution, types and design of HR metrics
- To deal with data collection and transformation
- To adopt tools and techniques for predictive modelling

UNIT - I Introduction to Human Resource Analytics **18**

Human Resource Analytics: Introduction – Concept – Evolution - Importance – Benefits – Challenges - Types of HR Analytics – HR Analytics Framework and Models.

UNIT - II Business Process and HR Analytics **18**

Business Process and HR Analytics: Introduction – Data Driven Decision Making in HR - Data Issues – Data Validity – Data Reliability - HR Research tools and techniques –Statistics and Statistics Modelling for HR Research

UNIT - III Introduction to HR Metrics **18**

HR Metrics: Introduction - Historical Evolution of HR metrics- Importance – Types of HR Metrics – Types of data - HR Metrics Design Principles — HR Scorecard – HR Dashboards.

UNIT - IV HR Analytics and Data **18**

HR Analytics and Data: Introduction – HR Data Collection – Data quality – Big data for Human Resources – Process of data collection for HR Analytics – Transforming data into HR information – HR Reporting – Data Visualization – Root cause analysis

UNIT - V HR Analytics and Predictive Modelling **18**

HR Analytics and Predictive Modelling: Introduction – HR Predictive Modelling – Different phases – Predictive analytic tools and techniques – Information for Predictive analysis - Software solutions - Predictive Analytic Models for Quantitative Data - Steps involved in predictive analytics.

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Nishant Uppal (2020), Human Resource Analytics Strategic Decision Making, 1st Edition, Pearson Education Pvt. Ltd., Chennai
- Sarojkumar and Vikrant Verma (2022), HR analytics, Thakur Publication Pvt. Ltd, Lucknow.
- Dipak Kumar Bhattacharyya (2017), HR analytics: understanding theories and applications, 1st Edition, Sage Publications India Private Limited, New Delhi

BOOKS FOR REFERENCES:

- Ramesh Soundararajan and Kuldeep Singh (2019), Winning on HR analytics, Sage publishing, New Delhi
- Anshul Saxena (2021), HR analytics: quantifying the intangible, 1st Edition, Blue Rose publishers, New Delhi
- Michael J. Walsh (2021), "HR analytics essentials you always wanted to know", 7th Edition, Vibrant publishers, Mumbai.

WEB RESOURCES:

- **https://hbr.org/webinar/2017/06/leveraging-hr-analytics-in-strategic-decisions**
- **https://www.mbaknol.com/human-resource-management/human-resource-metrics/**
- **https://www.managementstudyguide.com/hr-metrics-and-workforce-analysis.htm**

Nature of Course	EMPLOYABILITY		✓	SKILL ORIENTED			ENTREPRENEURSHIP				
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL			GLOBAL		✓	
Changes Made in the Course	Percentage of Change			No Changes Made			New Course			✓	

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Examine the concept of human resource analytics	**K1 to K5**
CO2	Apply the HR tools and techniques in decision making	**K1 to K5**
CO3	Examine the different types of HR metrics and their relative merits	**K1 to K5**
CO4	Collect and transform data leading to HR reporting	**K1 to K5**
CO5	Build models for predictive analysis	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:										
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	3	3	3				
CO2	3	3	2	3	3	3				
CO3	3	3	2	3	3	3				
CO4	3	3	2	3	3	3				
CO5	3	3	2	3	3	3				
S- STRONG				M – MEDIUM					L - LOW	

CO / PO MAPPING:					
COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3		
CO 2	3	3	3		
CO 3	3	3	3		
CO 4	3	3	3		
CO 5	3	3	3		
WEIGHTAGE	15	15	15		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	3.0	3.0	3.0		

LESSON PLAN:			
UNIT		HRS	PEDAGOGY
I	Introduction to Human Resource Analytics	18	Chalk and talk, Power Point Presentation, Video Lectures
II	Business Process and HR Analytics	18	Chalk and talk, Power Point Presentation, Video Lectures
III	Introduction to HR Metrics	18	Chalk and talk, Power Point Presentation, Video Lectures
IV	HR Analytics and Data	18	Chalk and talk, Power Point Presentation, Video Lectures
V	HR Analytics and Predictive Modelling	18	Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1 , K2	2(K3, K3)	2(K4, K4)
	CO2	**K1 – K5**	2	K1 , K2	2(K4, K4)	2(K5, K5)
CI AII	**CO3**	**K1 – K5**	2	K1 , K2	2(K2, K2)	2(K4, K4)
	CO4	**K1 – K5**	2	K1, K2	2(K3, K3)	2(K5, K5)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	**2**			**2**	**3.57**	**7**
	K2	**2**			**2**	**3.57**	
	K3		**10**		**10**	**17.85**	**18**
	K4		**10**	**16**	**26**	**46.43**	**46**
	K5			**16**	**16**	**28.58**	**29**
	Marks	**4**	**20**	**32**	**56**	**100**	**100**
CIA II	**K1**	**2**			**2**	**3.57**	**7**
	K2	**2**			**2**	**3.57**	
	K3		**10**		**10**	**17.85**	**18**
	K4		**10**	**16**	**26**	**46.43**	**46**
	K5			**16**	**16**	**28.58**	**29**
	Marks	**4**	**20**	**32**	**56**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	Cos	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K2, K2)	2 (K3, K3)
2	CO2	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K4,K4)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
4	CO4	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	4	4
K2	5	10		15	11	11
K3		20	32	52	37	37
K4		20	16	36	25	25
K5			32	32	23	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K2**	
		OR		
11. b)	**Unit - I**	**CO1**	**K2**	
12. a)	**Unit - II**	**CO2**	**K3**	
		OR		
12. b)	**Unit - II**	**CO2**	**K3**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K4**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K4**	
15. a)	**Unit - V**	**CO5**	**K3**	
		OR		
15. b)	**Unit - V**	**CO5**	**K3**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K3**	
		OR		
16. b)	**Unit - I**	**CO1**	**K3**	
17. a)	**Unit - II**	**CO2**	**K4**	
		OR		
17. b)	**Unit - II**	**CO2**	**K4**	
18. a)	**Unit - III**	**CO3**	**K5**	
		OR		
18. b)	**Unit - III**	**CO3**	**K5**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	INTERNATIONAL BUSINESS			
Course Code	23PCCCC43	**L**	**P**	**C**
Category	CORE	6	-	4

COURSE OBJECTIVES:

- To understand the concepts of International Business and International Business Environment
- To analyse the different theories of International Business.
- To understand the legal procedures involved in International Business.
- To evaluate the different types of economic integrations.
- To analyse the operations of MNCs through real case assessment.

UNIT - I Introduction to International business **18**

International Business -Meaning, Nature, Scope and Importance- Stages of internationalization of Business-Methods of entry into foreign markets: Licensing- Franchising- Joint Ventures-Strategic Alliances- Subsidiaries and Acquisitions -Framework for analyzing international business environment-Domestic, Foreign and Global Environment-Recent Developments in International Business.

UNIT - II Theoretical Foundations of International busines **18**

Theoretical Foundations of International Business: Theory of Mercantilism- Theory of Absolute and Comparative Cost Advantage-Haberler's Theory of Opportunity Cost- Heckscher- Ohlin Theory Market Imperfections Approach-Product Life Cycle Approach - Transaction Cost Approach-Dunning's Eclectic Theory of International Production

UNIT - III Legal framework of International Business **18**

Legal framework of International Business: Nature and complexities: Code and common laws and their implications to Business-International Business contract- Legal provisions, Payment terms.

UNIT - IV Multi-Lateral Agreements and Institutions **18**

Multi-Lateral Agreements and Institutions: Economic Integration – Forms: Free Trade Area, Customs Union, Common Market and Economic Union-Regional Blocks: Developed and Developing Countries-NAFTA- EU-SAARC, ASEAN-BRICS- OPEC-Promotional role played by IMF-World Bank and its affiliates- IFC, MIGA and ICSID – ADB-Regulatory role played by WTO andUNCTAD.

UNIT - V Multinational Companies (MNCs) and Host Countries **18**

Multinational Companies (MNCs) and Host Countries: MNCs – Nature and characteristics. Decision Making-Intra Firm Trade and Transfer Pricing – Technology Transfer- Employment and labour relations-Management Practices- Host Country Government Policies-International Business and Developing countries: Motives of MNC operations in Developing Countries (Discuss case studies)-Challenges posed by MNCs.

Total Lecture Hours **90**

BOOKS FOR STUDY:

- Charles W.L. Hill, International Business: Competing in the Global Market Place, Mc Graw Hill, NewYork
- Charles W. L. Hill, Chow How Wee & Krishna Udayasankar, International Business: An Asian Perspective- Mc Graw Hill, New York
- Rakesh Mohan Joshi (2009), International Business, Oxford University Press

BOOKS FOR REFERENCES:

- Donald Ball, Michael Geringer, Michael Minor & Jeanne McNett, International Business: The Challenge of Global Competition, Mc Graw Hill Education, NewYork
- Alan M Rugman & Simon Collinson, International Business: Pearson Education, Singapore

WEB RESOURCES:

- **https://www.icsi.edu/media/webmodules/publications/9.5%20International%20Business.pdf**
- **https://ebooks.lpude.in/commerce/mcom/term_3/DCOM501_INTERNATIONAL_BUSINESS.pdf**
- **https://www.shobhituniversity.ac.in/pdf/econtent/International-Business-Unit-1-Dr-Neha-Yajurvedi.pdf**

Nature of Course	EMPLOYABILITY		SKILL ORIENTED		ENTREPRENEURSHIP	✓						
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓				
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓						
*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**												

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Recall the concepts of International Business and International Business Environment	**K1 to K5**
CO2	Analyze different theories of International Business	**K1 to K5**
CO3	Evaluate the legal procedures involved in International Business.	**K1 to K5**
CO4	Explain the different types of economic integrations.	**K1 to K5**
CO5	Identify the operations of MNCs through real case assessment	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:										
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1	3	1	2	2	2				
CO2	3	2	3	1	3	3				
CO3	2	1	2	3	2	2				
CO4	1	3	1	2	1	1				
CO5	3	2	2	2	2	2				
S- STRONG				M – MEDIUM					L - LOW	

CO / PO MAPPING:					
COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	1	2		
CO 2	2	2	1		
CO 3	3	3	3		
CO 4	2	2	2		
CO 5	1	2	1		
WEIGHTAGE	11	10	9		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	2.2	2.0	1.8		

LESSON PLAN:			
UNIT	INTERNATIONAL BUSINESS	HRS	PEDAGOGY
I	Introduction to International business	18	Chalk and talk, Power Point Presentation, Video Lectures
II	Theoretical Foundations of International business	18	Chalk and talk, Power Point Presentation, Video Lectures
III	Legal framework of International Business	18	Chalk and talk, Power Point Presentation, Video Lectures
IV	Multi-Lateral Agreements and Institutions	18	Chalk and talk, Power Point Presentation, Video Lectures
V	Multinational Companies (MNCs) and Host Countries	18	Chalk and talk, Power Point Presentation, Video Lectures, seminar and assignment

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K5, K5)
	CO2	**K1 – K5**	2	K2,K2	2(K5, K5)	2(K4, K4)
CI AII	**CO3**	**K1 – K5**	2	K1,K1	2(K2, K2)	2(K5, K5)
	CO4	**K1 – K5**	2	K2,K2	2(K4, K4)	2(K3, K3)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	2			2	**3.57**	**7**
	K2	**2**			**2**	**3.57**	
	K3		10		10	**17.86**	**18**
	K4			16	16	**28.57**	**29**
	K5		10	16	26	**46.43**	**46**
	Marks	**4**	**20**	**32**	**56**	**100.00**	**100**
CIA II	**K1**	2			2	**3.57**	**25**
	K2	**2**	**10**		**12**	**21.43**	
	K3			16	10	**17.86**	**18**
	K4		10		16	**28.57**	**29**
	K5			16	16	**28.57**	**29**
	Marks	**4**	**20**	**32**	**56**	**100.00**	**100.00**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	Cos	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2, K2)	2 (K3, K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4, K4)	2 (K4, K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4, K4)	2 (K3, K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	3.57	4
K2	5	10		15	10.71	11
K3		20	32	52	37.14	37
K4		20	16	36	25.71	26
K5			32	32	22.86	23
Marks	10	50	80	140	100	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	PROJECT			
Course Code	23PCCPRJ1	**L**	**P**	**C**
Category	CORE	6	-	3

COURSE OBJECTIVES:

- Develop the ability of the students to prepare a project.
- Give the practical exposure in the field of commerce and business.
- Skill Development & Able to take business decisions by taking research
- Develops skills for Entrepreneurship.
- Develop the ability to analyze and to prepare report

REGULATIONS FOR THE PROJECT REPORT:

- The topic of the project may be based on research articles from commerce journals or any topic not covered in the M.Com syllabus.
- Internal examinations are the respective supervisors.
- Viva Voce examination to be evaluated by the external examiner.
- The report of the project must be in the prescribed form. It should be typed neatly in MS Word. The font size of the letter should be 12 point with double space.
- The format of the project report should have the following components.
  - First page should contain:
    - Title of the project report
    - Name of the candidate.
    - Register number
    - Name of the Supervisor.
    - Address of the institution.
    - Month & Year of submission.
  - Contents.
  - Declaration by Candidate.
  - Certificate by Supervisor
  - Acknowledgement
  - List of tables
  - List of figures
  - Chapters (not exceeding five)
- The number of pages in the project may be 50 to 80.
- Two copies of the project report with binding should be submitted.

Course Description

The Project is conducted by the following Course Pattern.

Total Lecture Hours	**90**

Internal

Presentation Submission **40**

External

Project Report Viva Voce 60

Total **100**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made	✓	New Course			
***Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**								

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Develop the ability of the students to prepare a project.	**K1 to K5**
CO2	Give the practical exposure in the field of commerce and business.	**K1 to K5**
CO3	Skill Development & Able to take business decisions by taking research	**K1 to K5**
CO4	Develops skills for Entrepreneurship	**K1 to K5**
CO5	Develop the ability to analyze and to prepare report	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/ PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	**3**	**2**	**2**	**3**	**2**	**2**				
CO2	**3**	**3**	**3**	**3**	**3**	**3**				
CO3	**3**	**3**	**3**	**3**	**3**	**3**				
CO4	**2**	**3**	**3**	**2**	**3**	**3**				
CO5	**2**	**2**	**2**	**2**	**2**	**2**				

S -STRONG **M – MEDIUM** **L – LOW**

Distribution of Marks with COs &K Level for Correction of CIA					
	COs	**K - Level**	**Distribution of the work of the experiment**	**K - Level**	**MARKS**
CIA	**CO1**	**K1 to K5**	Preliminary Research Problem - Introduction	**K1**	**4.0**
	CO2	**K1 to K5**	Literature Survey	**K2**	**5.0**
	CO3	**K1 to K5**	Understanding and Observation of the Data	**K3**	**8.0**
	CO4	**K1 to K5**	Results and Discussion	**K4**	**4.0**
	CO5	**K1 to K5**	Interpretation of result and Conclusion	**K5**	**4.0**
	Total Marks				**25**

Distribution of Marks with K Level CIA					
	K Level	**Distribution of the work of the experiment**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA	K1	Preliminary Research Problem - Introduction	4	16.0	**-**
	K2	Literature Survey	5	20.0	
	K3	Understanding and Observation of the Data	8	32.0	**36.0**
	K4	Results and Discussion	4	16.0	**68.0**
	K5	Interpretation of result and Conclusion	4	16.0	**84.0**
	Marks		**25**	**100**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 – Evaluating, interpreting and concluding the results with accurate measurements**.**

Distribution of Marks with COs &K Level for Correction of the Summative Exam				
COs	**K - Level**	**Distribution of the work of the experiment**	**K - Level**	**MARKS**
CO1	**K1 to K5**	Preliminary Research Problem - Introduction	**K1**	**10**
CO2	**K1 to K5**	Literature Survey and scope of the problem	**K2**	**10**
CO3	**K1 to K5**	Understanding and Observation of the Data	**K3**	**20**
CO4	**K1 to K5**	Results and Discussion	**K4**	**15**
CO5	**K1 to K5**	Viva Voce	**K5**	**20**
Total Marks				**75**

Distribution of Marks with K Level				
K Level	**Parameters for K-Level**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
K1	Preliminary Research Problem - Introduction	**10**	**13.33**	**13.3**
K2	Literature Survey	**10**	**13.33**	**13.3**
K3	Understanding and Observation of the Data	**20**	**26.67**	**26.7**
K4	Results and Discussion	**15**	**20.0**	**20**
K5	Viva Voce	**20**	**26.67**	**26.7**
Marks		**75**	**100**	**100**

Course Name	CYBER AND DATA SECURITY			
Course Code	23PCCEC41	L	P	C
Category	ELECTIVE	4	-	3

COURSE OBJECTIVES:

- To understand threats and risks in cybersecurity landscape
- To interpret cybersecurity framework and regulations
- To examine data security and integrity regulations
- To discuss network security management
- To recall cybersecurity disasters

UNIT - I Cyber security Landscape **12**

Cybersecurity Landscape: Threats that are related to current and emerging trends, cyber security awareness, high profile cybercrime statistics and methods, the importance and functions of Governance, Risk Management, and Compliance in Cyber security program management, best practices in risk management including the domains of risk assessment and risk treatment, the structure and content of Cybersecurity-related strategy, plans, and planning. types of vulnerabilities and frauds in different domains eg. Financial and Banking, Ecommerce, Telecom, GDPR.

UNIT - II Cyber security Frameworks **12**

Cybersecurity Frameworks: International and industry-specific cybersecurity regulations, challenges to organisation, multiple security regulations, Define key concepts and terminology in Cybersecurity, threats to cybersecurity, strategies to identify and remediate vulnerabilities in information assets, the systemic components (including personnel) necessary for an effective cybersecurity program, NIST Framework.

UNIT - III Data Security **12**

Data Security: Data Integrity and Security, digital security, Data volume and velocity, Bigdata, multiple data sources, data diversity, Data (dis)organization, Unique data storage requirements, Security tools, Inflexible reporting and query systems.

UNIT - IV Managing Network Security **12**

Managing Network Security: The threats to data from information communication technology (ICT), the issues and practices associated with managing network security, Identify the practices, tools, and methodologies associated with assessing network security, the components of an effective network security program. Phishing attacks on sites, digital advertising spoofing, Search indexing

UNIT - V Cyber security Incidents and Disasters **12**

Cybersecurity Incidents and Disasters: Hacking attempts, web site defacement, denial of service attacks, information disclosures, natural and man-made cybersecurity disasters, the components of a cybersecurity contingency planning program, contingency strategies including data backup and recovery and continuity of cybersecurity operations, the components and structure of an effective cybersecurity disaster recovery program, the components and structure of an effective cybersecurity incident response program. Digital ecosystem, Cloud computing.

Total Lecture Hours **60**

BOOKS FOR STUDY:

- Nina Godbole, SunitBelapure(2016), "Cyber Security", Wiley India, New Delhi.
- Avantika Yadav (2017), "Cyber security", Narosa Publishing House Pvt Ltd. New Delhi.
- Tim Mather, Subra Kumaraswamy, Shahed Latif (2010), "Cloud Security and Privacy", OREILLY Media, USA.

BOOKS FOR REFERENCES:

- Nina Godbole, "Information Systems Security", Wiley India, New Delhi.
- Kennetch J. Knapp, "Cyber Security & Global Information Assurance", Information Science Publishing.
- Thomas J Mowbray (2016), "Cyber Security Managing Systems, Conducting Testing and Investigating Intrusions", Wiley India Pvt. Ltd, New Delhi.

WEB RESOURCES:

- **https://mrcet.com/pdf/Lab%20Manuals/IT/CYBER%20SECURITY%20(R18A0521).pdf**
- **http://www.uptti.ac.in/classroom-content/data/cyber%20security%20unit-3.pdf**

Nature of Course	EMPLOYABILITY	✓	SKILL ORIENTED		ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made		New Course	✓		

*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Develop plans to mitigate risks and threats to cybersecurity	**K1 to K5**
CO2	Solve vulnerabilities in cybersecurity frameworks	**K1 to K5**
CO3	Solve issues in integrity issues in cybersecurity	**K1 to K5**
CO4	Implement radical changes in cybersecurity management	**K1 to K5**
CO5	Formulate strategies to overcome cybersecurity disasters	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	2	2				
CO2	3	3	3	3	2	2				
CO3	3	3	3	3	2	2				
CO4	3	3	2	3	2	2				
CO5	3	3	2	3	2	2				

S- STRONG	M – MEDIUM	L - LOW

CO / PO MAPPING:

COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	2	3	2		
CO 2	2	2	3		
CO 3	2	2	3		
CO 4	2	2	2		
CO 5	2	3	3		
WEIGHTAGE	10	12	13		
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	2	2.4	2.6		

LESSON PLAN:

UNIT	CYBER AND DATA SECURITY	HRS	PEDAGOGY
I	Cybersecurity Landscape	12	Chalk and talk, Power Point Presentation, Video Lectures
II	Cybersecurity Frameworks	12	Chalk and talk, Power Point Presentation, Video Lectures
III	Data Security	12	Chalk and talk, Power Point Presentation, Video Lectures
IV	Managing Network Security	12	Chalk and talk, Power Point Presentation, Video Lectures
V	Cybersecurity Incidents and Disasters	12	Chalk and talk, Power Point Presentation, Video Lectures

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)						
Internal	**Cos**	**K Level**	**Section A**		**Section B Either or Choice**	**Section C Either or Choice**
			MCQs			
			No. of. Questions	**K - Level**		
CI AI	**CO1**	**K1 – K5**	2	K1,K1	2(K3, K3)	2(K5, K5)
	CO2	**K1 – K5**	2	K2,K2	2(K5, K5)	2(K4, K4)
CI AII	**CO3**	**K1 – K5**	2	K1,K1	2(K2, K2)	2(K5, K5)
	CO4	**K1 – K5**	2	K2,K2	2(K4, K4)	2(K3, K3)
Question Pattern CIA I & II		**No. of Questions to be asked**	4		4	4
		No. of Questions to be answered	4		2	2
		Marks for each question	1		5	8
		Total Marks for each section	4		10	16

Distribution of Marks with K Level CIA I & CIA II							
	K Level	**Section A (Multiple Choice Questions)**	**Section B (Either / Or Choice)**	**Section C (Either / Or Choice)**	**Total Marks**	**% of (Marks without choice)**	**Consolidate of %**
CIA I	**K1**	2			2	**6.67**	**13.33**
	K2	2			2	**6.67**	
	K3		5		5	**33.33**	**16.67**
	K4			8	8	**53.33**	**26.67**
	K5		5	8	13	**86.66**	**43.33**
	Marks	**4**	**10**	**16**	**30**	**186.66**	**100**
CIA II	**K1**	2			2	**6.67**	**30**
	K2	2	5		7	**40**	
	K3			8	8	**53.33**	**26.67**
	K4		5		5	**33.33**	**16.66**
	K5			8	8	**53.33**	**26.67**
	Marks	**4**	**10**	**16**	**30**	**186.66**	**100**

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)						
S. No	Cos	K - Level	Section A (MCQs)		Section B (Either / or Choice) With K - LEVEL	Section C (Either / or Choice) With K - LEVEL
			No. of Questions	K – Level		
1	CO1	K1 – K5	2	K1, K2	2 (K3, K3)	2 (K5, K5)
2	CO2	K1 – K5	2	K1, K2	2 (K2,K2)	2 (K3,K3)
3	CO3	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K4,K4)
4	CO4	K1 – K5	2	K1, K2	2 (K3,K3)	2 (K5,K5)
5	CO5	K1 – K5	2	K1, K2	2 (K4,K4)	2 (K3,K3)
No. of Questions to be Asked			10		10	10
No. of Questions to be answered			10		5	5
Marks for each question			1		5	8
Total Marks for each section			10		25	40
(Figures in parenthesis denotes, questions should be asked with the given K level)						

Distribution of Marks with K Level						
K Level	Section A (Multiple Choice Questions)	Section B (Either or Choice	Section C (Either/ or Choice)	Total Marks	% of (Marks without choice)	Consolidated %
K1	5			5	6.67	6.67
K2	5	5		10	20	13.33
K3		5	16	26	69.33	34.67
K4		5	8	18	48	24
K5			16	16	42.66	21.33
Marks	10	25	40	75	186.66	100
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.						

Summative Examinations - Question Paper – Format

Q. No.	Unit	CO	K-level		
Answer **ALL** the questions				**PART – A**	**(10 x 1 = 10 Marks)**
1.	**Unit - I**	**CO1**	**K1**		
				a)	b)
				c)	d)
2.	**Unit - I**	**CO1**	**K2**		
				a)	b)
				c)	d)
3.	**Unit - II**	**CO2**	**K1**		
				a)	b)
				c)	d)
4.	**Unit - II**	**CO2**	**K2**		
				a)	b)
				c)	d)
5.	**Unit - III**	**CO3**	**K1**		
				a)	b)
				c)	d)
6.	**Unit - III**	**CO3**	**K2**		
				a)	b)
				c)	d)
7.	**Unit - IV**	**CO4**	**K1**		
				a)	b)
				c)	d)
8.	**Unit - IV**	**CO4**	**K2**		
				a)	b)
				c)	d)
9.	**Unit - V**	**CO5**	**K1**		
				a)	b)
				c)	d)
10.	**Unit - V**	**CO5**	**K2**		
				a)	b)
				c)	d)

Answer **ALL** the questions		**PART – B**		**(5 x 5 = 25 Marks)**
11. a)	**Unit - I**	**CO1**	**K3**	
		OR		
11. b)	**Unit - I**	**CO1**	**K3**	
12. a)	**Unit - II**	**CO2**	**K2**	
		OR		
12. b)	**Unit - II**	**CO2**	**K2**	
13. a)	**Unit - III**	**CO3**	**K4**	
		OR		
13. b)	**Unit - III**	**CO3**	**K4**	
14. a)	**Unit - IV**	**CO4**	**K3**	
		OR		
14. b)	**Unit - IV**	**CO4**	**K3**	
15. a)	**Unit - V**	**CO5**	**K4**	
		OR		
15. b)	**Unit - V**	**CO5**	**K4**	

Answer **ALL** the questions		**PART – C**		**(5 x 8 = 40 Marks)**
16. a)	**Unit - I**	**CO1**	**K5**	
		OR		
16. b)	**Unit - I**	**CO1**	**K5**	
17. a)	**Unit - II**	**CO2**	**K3**	
		OR		
17. b)	**Unit - II**	**CO2**	**K3**	
18. a)	**Unit - III**	**CO3**	**K4**	
		OR		
18. b)	**Unit - III**	**CO3**	**K4**	
19. a)	**Unit - IV**	**CO4**	**K5**	
		OR		
19. b)	**Unit - IV**	**CO4**	**K5**	
20. a)	**Unit - V**	**CO5**	**K3**	
		OR		
20. b)	**Unit - V**	**CO5**	**K3**	

Course Name	PHP PROGRAMMING - LAB			
Course Code	23PCCSP41	**L**	**P**	**C**
Category	SKILL	-	2	2

COURSE OBJECTIVES:

- Understand basic PHP style of programming and various techniques of web development.
- Understand the features like Form and Functions in PHP.
- Understand the String Functions, Array Function in PHP.
- Apply and Analyze PHP programs to design Real life problems using Cookies.
- Design Examine PHP programs using parsing functions.

List of Programs	**30**

1) Develop PHP program for Arithmetic operation using Form.
2) Develop PHP program to Reverse the given Number.
3) Develop PHP program Fibonacci Series without using recursive function.
4) Develop PHP program to display Alphabet-Triangle.
5) Develop PHP Program to Swapping two values Without Third Variable.
6) Develop PHP Program to check the palindrome number or not.
7) Develop a PHP program to find position of a sub string in a string.
8) Develop a PHP program and check message passing mechanism between pages.
9) Develop a PHP program to Count Number of Visits on a web page using cookies.
10) Develop a PHP program to Develop a PHP program using parsing functions.

Total Lecture Hours	**30**

BOOKS FOR STUDY:

- PHP A Beginner's Guide , VIKRAM VASWANI, Tata McGraw-Hill
- Dinesh Maidasani, PHP, Firewall Media (An Imprint of Laxmi Publication Pvt Ltd.,) First Edition, 2007, reprint 2008, 2013, New Delhi.

BOOKS FOR REFERENCES:

- Bayross (Ivan), Web Enabled Commercial Application Development using HTML, Java script, DHTML and PHP with CDROM, BPB Publication, FourthEdition, 2010, New Delhi.
- Guengerich (Steve), PHP6 and MYSQL, Willey India, Fourth Edition, 2014, New Delhi.
- Murah.J and Harris.R, PHP and MYSQL ,Mike Murach& Associates ,Inc., 2010

WEB RESOURCES:

- **https://www.javatpoint.com/php-tutorial**
- **https://www.phptpoint.com/php-tutorial/**
- **https://www.geeksforgeeks.org/php/**

Nature of Course	EMPLOYABILITY		SKILL ORIENTED	✓	ENTREPRENEURSHIP			
Curriculum Relevance	LOCAL		REGIONAL		NATIONAL		GLOBAL	✓
Changes Made in the Course	Percentage of Change		No Changes Made	✓	New Course			
*** Treat 20% as each unit (20*5=100%) and calculate the percentage of change for the course.**								

COURSE OUTCOMES:		**K LEVEL**
After studying this course, the students will be able to:		
CO1	Design and Implement Interactive web page using Forms.	**K1 to K5**
CO2	Understand and Implement the function and array handling in PHP	**K1 to K5**
CO3	Utilizing the concept of String and date Function.	**K1 to K5**
CO4	Create web page using the message passing mechanism between pages.	**K1 to K5**
CO5	Understand and Apply the Strategies of handling Cookies in PHP	**K1 to K5**

MAPPING WITH PROGRAM OUTCOMES:										
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1	1	2	2	2	1	2	1	2	2
CO2	2	2	2	2	2	1	2	2	2	2
CO3	2	2	3	3	2	1	2	3	3	2
CO4	2	3	3	3	3	2	3	3	3	3
CO5	2	3	3	3	3	2	3	3	3	3
S- STRONG				M – MEDIUM					L - LOW	

CO / PO MAPPING:					
COS	PSO1	PSO2	PSO3	PSO4	PSO5
CO 1	3	3	3	3	3
CO 2	3	3	3	2	3
CO 3	2	3	2	3	3
CO 4	3	3	3	3	3
CO 5	3	3	3	3	3
WEIGHTAGE	14	15	14	14	15
WEIGHTED PERCENTAGE OF COURSE CONTRIBUTION TO POS	93	100	93	93	100

LESSON PLAN:

UNIT	PHP PROGRAMMING - LAB	HRS	PEDAGOGY
	11) Develop PHP program for Arithmetic operation using Form. 12) Develop PHP program to Reverse the given Number. 13) Develop PHP program Fibonacci Series without using recursive function. 14) Develop PHP program to display Alphabet-Triangle. 15) Develop PHP Program to Swapping two values Without Third Variable. 16) Develop PHP Program to check the palindrome number or not. 17) Develop a PHP program to find position of a sub string in a string. 18) Develop a PHP program and check message passing mechanism between pages. 19) Develop a PHP program to Count Number of Visits on a web page using cookies. 20) Develop a PHP program to Develop a PHP program using parsing functions.	30	Lab Experiments

Learning Outcome Based Education & Assessment (LOBE) Formative Examination - Blue Print Articulation Mapping – K Levels with Course Outcomes (COs)							
Internal	**Cos**	**K Level**	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding & Implementation**	**Debugging & Output**
CI AI	**CO1**	**K1**	5				
	CO2	**K2**		5			
	CO3	**K3**			5		
	CO4	**K3**				5	
	CO5	**K4**					5
Question Pattern CIA		**No. of Questions to be asked**	2	2	2	2	2
		No. of Questions to be answered	2	2	2	2	2
		Marks for each question	2.5	2.5	2.5	2.5	2.5
		Total Marks for each section	5	5	5	5	5

Distribution of Marks with K Level CIA									
	K Level	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Implementation**	**Output**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
CIA	**K1**	5					5	20	20
	K2		5				5	20	20
	K3			5	5		10	40	40
	K4					5	5	20	20
	Marks						25	100	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

K5 – Evaluate, combine, Criticize, Predict, Convince.

CO5 will be allotted for individual Assignment which carries five marks as part of CIA component.

Summative Examination – Blue Print Articulation Mapping – K Level with Course Outcomes (COs)							
S. No.	**Cos**	**K Level**	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding& Implementation**	**Debugging & Output**
1	**CO1**	**K1**	15				
2	**CO2**	**K2**		15			
3	**CO3**	**K3**			15		
4	**CO4**	**K3**				15	
5	**CO5**	**K4**					15
Question Pattern		**No. of Questions to be asked**	2	2	2	2	2
		No. of Questions to be answered	2	2	2	2	2
		Marks for each question	7.5	7.5	7.5	7.5	7.5
		Total Marks for each section	15	15	15	15	15

Distribution of Marks with K Level								
K Level	**Syntax & Semantics**	**Programming principles**	**Concept Applications**	**Coding**	**Debugging & Output**	**Total Marks**	**% of (Marks without choice)**	**Consolidated %**
K1	15					**15**	**20**	**20**
K2		15				**15**	**20**	**20**
K3			15	15		30	40	40
K4					15	15	20	20
Marks	**15**	**15**	**15**	**15**	**15**	**75**	**100**	**100**
NB: Higher level of performance of the students is to be assessed by attempting higher level of K levels.								