Ref No:

SRI KRISHNA INSTITUTE OF TECHNOLOGY , BANGALORE-90

COURSE PLAN

Academic Year 2019-20

Program:	B E – CIVIL ENGINEERING
Semester :	6
Course Code:	CONSTRUCTION MANAGEMENT AND ENTREPRENEURSHIP
Course Title:	17CV61
Credit / L-T-P:	4/4-0-0
Total Contact Hours:	40
Course Plan Author:	Vinod M

Academic Evaluation and Monitoring Cell

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Note : Remove “Table of Content” before including in CP Book
Each Course Plan shall be printed and made into a book with cover page
Blooms Level in all sections match with A.2, only if you plan to teach / learn at higher levels

A. COURSE INFORMATION

1. Course Overview

Degree:	BE	Program:	
Year / Semester :	2019/VI	Academic Year:	2019-20
Course Title:	CONSTRUCTION MANAGEMENT AND ENTERPRENEURSHIP	Course Code:	17CV61
Credit / L-T-P:	4-0-0	SEE Duration:	180 Minutes
Total Contact Hours:	40	SEE Marks:	80 Marks
CIA Marks:	40	Assignment	1 / Module
Course Plan Author:	Vinod M	Sign	Dt:
Checked By:	MOHAN K T	Sign	Dt:
CO Targets	CIA Target : 85 %	SEE Target:	78 %

Note: Define CIA and SEE % targets based on previous performance.

2. Course Content

Content / Syllabus of the course as prescribed by University or designed by institute. Identify 2 concepts per module as in G.

Module	Content	Teaching Hours	Identified Module Concepts	Blooms Learning Levels
1	**Management:** Characteristics of management, functions of management, importance and purpose of planning process, types of plans **Construction Project Formulation:** Introduction to construction management, project organization, management functions, management styles **Construction Planning and Scheduling:** Introduction, types of project plans, work breakdown structure, Grant Chart, preparation of network diagram- event and activity based and its critical path-critical path method, concept of activity on arrow and activity on node.	10	Management, Construction Project Formulation	L1,L2,L3
2	**Resource Management:** Basic concepts of resource management, class of labour, Wages & statutory requirement, Labour Production rate or Productivity, Factors affecting labour output or productivity. **Construction Equipments:** classification of construction equipment, estimation of productivity for: excavator, dozer, compactors, graders and dumpers. Estimation of ownership cost, operational and maintenance cost of construction equipments. Selection of construction equipment and basic concept on equipment maintenance **Materials:** material management functions, inventory management.	10	Resource Management, Construction Equipments:	L1,L2,L3
3	**Construction Quality , safety and Human Values:** Construction quality process, inspection, quality control and quality assurance, cost of quality, ISO standards. Introduction to concept of Total Quality Management **HSE:** Introduction to concepts of HSE as applicable to Construction. Importance of safety in construction , Safety measures to be taken during Excavation , Explosives , drilling and blasting , hot bituminous works , scaffolds / platforms / ladder , form work and equipment operation. Storage of materials. Safety through legislation, safety campaign. Insurances. **Ethics :** Morals, values and ethics, integrity, trustworthiness , work ethics, need of engineering ethics, Professional Duties, Professional and Individual Rights, Confidential and Proprietary Information, Conflict of Interest Confidentiality, Gifts and Bribes, Price Fixing, Whistle Blowing.	10	Construction quality ,safety and Human Values	L1,L2,L3

4	**Introduction to engineering economy** : Principles of engineering economics, concept on Micro and macro analysis, problem solving and decision making. **Interest and time value of money:** concept of simple and compound interest, interest formula for: single payment, equal payment and uniform gradient series. Nominal and effective interest rates, deferred annuities, capitalized cost. **Comparison of alternatives :** Present worth, annual equivalent , capitalized and rate of return methods , Minimum Cost analysis and break even analysis	10	Introduction to engineering economy, Interest and time value of money:	L1,L2,L3
5	**Entrepreneurship:** Evolution of the concept, functions of an entrepreneur, concepts of entrepreneurship, stages in entrepreneurial process, different sources of finance for entrepreneur, central and state level financial institutions. **Micro, Small & Medium Enterprises (MSME):** definition, characteristics, objectives, scope, role of MSME in economic development, advantages of MSME, Introduction to different schemes: TECKSOK, KIADB, KSSIDC, DIC, Single Window Agency: SISI, NSIC, SIDBI, KSFC **Business Planning Process:** Business planning process, marketing plan, financial plan, project report and feasibility study, guidelines for preparation of model project report for starting a new venture. Introduction to international entrepreneurship opportunities , entry into international business , exporting , direct foreign investment , venture capital	10	Business Planning, Entrepreneurship	L1,L2,L3
-	**Total**	50		

3. Course Material

Books & other material as recommended by university (A, B) and additional resources used by course teacher (C).

1. Understanding: Concept simulation / video ; one per concept ; to understand the concepts ; 15 – 30 minutes
2. Design: Simulation and design tools used – software tools used ; Free / open source
3. Research: Recent developments on the concepts – publications in journals; conferences etc.

Modules	Details	Chapters in book	Availability
A	**Text books (Title, Authors, Edition, Publisher, Year.)**	**-**	**-**
	Text books		
1	P C Tripathi and P N Reddy, "Principles of Management", Tata McGraw-Hill Education	In Lib	1
	Chitkara, K.K, "Construction Project Management: Planning Scheduling and Control", Tata McGraw-Hill Publishing Company, New Delhi.		
2	Poornima M. Charantimath , "Entrepreneurship Development and Small Business Enterprise", Dorling Kindersley (India) Pvt. Ltd., Licensees of Pearson Education		2
	Bureau of Indian standards – IS 7272 (Part-1)- 1974 : Recommendations for labour output constant for building works	In dept	
	Dr. U.K. Shrivastava "Construction Planning and Management", Galgotia publications Pvt. Ltd. New Delhi.		
3	Harold Koontz, Heinz Weihrich, "Essentials of Management: An International, Innovation, and Leadership perspective", T.M.H. Edition, New Delhi		3
	Frank Harris, Ronald McCaffer with Francis Edum-Fotwe, " Modern Construction Management",	Not Availabl	

	Wiley-Blackwell	e	
	S.C Sharma –"Construction Equipments and its management" – Khanna publishers		
	Robert L Peurifoy, Clifford J. Schexnayder, Aviad Shapira, Robert Schmitt, "Construction Planning, Equipment, and Methods (Civil Engineering), McGraw-Hill Education		
B	**Reference books (Title, Authors, Edition, Publisher, Year.)**	**-**	
	1 Robert L Peurifoy, Clifford J. Schexnayder, Aviad Shapira, Robert Schmitt, "Construction Planning, Equipment, and Methods (Civil Engineering), McGraw-Hill Education 2. Harold Koontz, Heinz Weihrich, "Essentials of Management: An International, Innovation, and Leadership perspective", T.M.H. Edition, New Delhi 3. Frank Harris, Ronald McCaffer with Francis Edum-Fotwe, " Modern Construction Management", Wiley-Blackwell 4. Mike Martin, Roland Schinzinger, "Ethics in Engineering", McGraw-Hill Education 5. Chris Hendrickson and Tung Au, "Project Management for Construction - Fundamentals Concepts for Owners, Engineers, Architects and Builders", Prentice Hall, Pitsburgh 6. James L.Riggs , David D. Bedworth , Sabah U. Randhawa " Engineerng Economics" 4 ed tata Mc Graw hill. 7. S.C Sharma –"Construction Equipments and its management" – Khanna publishers	?	In Lib
		?	Not Available
		?	In lib
C	**Concept Videos or Simulation for Understanding**	**-**	**-**
C1	https://youtu.be/2zM35VRDC-Q		
C2	https://youtu.be/jjUyHwuUwbk		
C3	https://youtu.be/_yeWv1dT5KE		
C4	https://youtu.be/CoqNr8svEs0		
C5	https://youtu.be/ypTiYyh7YT0		
C6	https://youtu.be/vS31O3XfH_0		
C7	https://youtu.be/84Ejjd9YP8I		
C8	https://youtu.be/oeox8DLagHU		
C9	https://youtu.be/CnStAWc7iOw		
C10	https://youtu.be/NCtyl1ILH7k		
	Lab : -		
D	**Software Tools for Design**	**-**	**-**
E	**Recent Developments for Research**	**-**	**-**
F	**Others (Web, Video, Simulation, Notes etc.)**	**-**	**-**
1			
?			

4. Course Prerequisites

Refer to GL01. If prerequisites are not taught earlier, GAP in curriculum needs to be addressed. Include in Remarks and implement in B.5.

Students must have learnt the following Courses / Topics with described Content . . .

Modules	Course Code	Course Name	Topic / Description	Sem	Remarks	Blooms Level
1						
3						
3						
5						
-						
-						

5. Content for Placement, Profession, HE and GATE

The content is not included in this course, but required to meet industry & profession requirements and help students for Placement, GATE, Higher Education, Entrepreneurship, etc. Identifying Area / Content requires experts consultation in the area.
Topics included are like, a. Advanced Topics, b. Recent Developments, c. Certificate Courses, d. Course Projects, e. New Software Tools, f. GATE Topics, g. NPTEL Videos, h. Swayam videos etc.

Modules	Topic / Description	Area	Remarks	Blooms Level
1				
2				
3				
4				
-				
-				

B. OBE PARAMETERS

1. Course Outcomes

Expected learning outcomes of the course, which will be mapped to POs. Identify a max of 2 Concepts per Module. Write 1 CO per Concept.

Modules	Course Code.#	Course Outcome **At the end of the course, student should be able to . . .**	Teach. Hours	Concept	Instr Method	Assessment Method	Blooms' Level
1	17CV61.1	Understand characteristics of management and construction management process	5	Management,	Lecture	Assignment	L1, L2
1	17CV61.2	Understand and solve variety of issues of construction encountered by every professional in discharging professional duties.	5	Construction Project Formulation	Lecture	Assignment	L3
2	17CV61.3	The student should be able to: Material management	5	Resource Management,	Lecture	Assignment	L1, L2
2	17CV61.4	Quality management	5	Construction Equipments:	Lecture	Assignment	L1, L2
3	17CV61.5	planning techniques.	5	Construction quality ,	Lecture	Assignment	L2
3	17CV61.6	professional duties	5	safety and Human Values	Lecture	Assignment	L3
4	17CV61.7	stages in entrepreneurial processes.	5	Introduction to engineering economy	Lecture	Assignment	L3
4	17CV61.8	economic development.	5	Interest	Lecture	Assignme	L3

				and time value of money		nt	
5	17CV61.9	understand business planning process	5	Business Planning,	Lecture	Assignment	L3
5	17CV61.10	understand the nature of international entrepreneurship.	5	Entrepreneurship	Lecture	Assignment	L3
-	**-**	**Total**		**-**	**-**	**-**	**L1-L3**

2. Course Applications

Write 1 or 2 applications per CO.
Students should be able to employ / apply the course learnings to . . .

Modules	Application Area Compiled from Module Applications.	CO	Level
1	CM is working "at risk", therefore have incentive to act in the owner's interest, as well as to efficiently manage construction costs, considering they would be liable for any amount in excess of the GMP		
2	Ability to handle changes in design or scope[12]		
3	Optimum use of available funds		
4	Control of the scope of the work		
5	Project scheduling		
6	Optimum use of design and construction firms' skills and talents		
7	Avoidance of delays, changes and disputes		
8	Enhancing project design and construction quality		
9	Optimum flexibility in contracting and procurement		
10	Cash-flow management		

3. Mapping And Justification

CO – PO Mapping with mapping Level along with justification for each CO-PO pair.
To attain competency required (as defined in POs) in a specified area and the knowledge & ability required to accomplish it.

Modules	Mapping		Mapping Level	Justification for each CO-PO pair	Level
-	**CO**	**PO**	**-**	**'Area': 'Competency' and 'Knowledge' for specified 'Accomplishment'**	**-**
1	CO1	PO1	L2	Engineering knowledge of characteristics of management and construction management process is required.	1
1	CO1	PO8	L2	Professional ethics is required for construction management process	1
1	CO1	PO10	L2	Effective Presentation on characteristics of management and construction management process is required.	1
2	CO2	PO1	L3	Engineering knowledge to Understand and solve variety of issues of construction encountered by every professional in discharging professional duties is required.	1
2	CO2	PO8	L3	Professional ethics to Understand and solve variety of issues of construction encountered by every professional in discharging professional duties required.	1
2	CO2	PO10	L3	Effective Presentation Understand and solve variety of issues of construction encountered by every professional in discharging professional duties required.	1

3	CO3	PO1	L2	Engineering knowledge of quality management is required.	1
3	CO3	PO8	L2	Professional ethics of quality management is required.	1
3	CO3	PO10	L2	Effective Presentation of quality management is required.	1
4	CO4	PO1	L3	Engineering knowledge of material management is required.	1
4	CO4	PO8	L3	Professional ethics of material management is required.	1
4	CO4	PO10	L3	Effective Presentation of material management is required.	1
5	CO5	PO1	L2	Engineering knowledge of planning techniques required.	1
5	CO5	PO8	L2	Professional ethics of planning techniques required.	1
5	CO5	PO10	L2	Effective Presentation of planning techniques required.	1
6	CO6	PO1	L3	Engineering knowledge of professional duties is required.	1
6	CO6	PO8	L3	Professional ethics of professional duties is required.	1
6	CO6	PO10	L3	Effective Presentation professional duties is required.	1
7	CO7	PO1	L2	Engineering knowledge of stages in entrepreneurial processes is required.	1
7	CO7	PO8	L2	Professional ethics of stages in entrepreneurial processes is required.	1
7	CO7	PO10	L2	Effective Presentation of stages in entrepreneurial processes is required.	1
8	CO8	PO1	L3	Engineering knowledge of economic development. Is required.	1
8	CO8	PO8	L3	Professional ethics of economic development. Is required	1
8	CO8	PO10	L3	Effective Presentation of economic development. Is required.	1
9	CO9	PO1	L2	Engineering knowledge of business planning process is required.	1
9	CO9	PO8	L2	Professional ethics of business planning process is required.	1
9	CO9	PO10	L2	Effective Presentation of business planning process is required.	1
10	CO10	PO1	L3	Engineering knowledge of nature of international entrepreneurship is required.	1
10	CO10	PO8	L3	Professional ethics of nature of international entrepreneurship is required.	1
10	CO10	PO10	L3	Effective Presentation of nature of international entrepreneurship is required.	1

4. Articulation Matrix

CO – PO Mapping with mapping level for each CO-PO pair, with course average attainment.

-	-	Course Outcomes	Program Outcomes														-
Modules	CO.#	**At the end of the course student should be able to . . .**	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	Level
1	17CV61.1	Understand characteristics of management and construction management process	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L1, L2
1	17CV61.2	Understand and solve variety of issues of construction encountered by every professional in discharging professional duties.	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L3
2	17CV61.3	The student should be able to: Material management	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L1, L2
2	17CV61.4	Quality management	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L3
3	17CV61.5	planning techniques.	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L1, L2
3	17CV61.6	professional duties	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L3
4	17CV61.7	stages in entrepreneurial processes.	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L1, L2
4	17CV61.8	economic development.	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L3
5	17CV61.9	understand business planning process	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L1, L2
5	17CV61.10	understand the nature of international entrepreneurship.	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	L3
-		**Average attainment (1, 2, or 3)**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**-**
-	*PO, PSO*	*1.Engineering Knowledge; 2.Problem Analysis; 3.Design / Development of Solutions; 4.Conduct Investigations of Complex Problems; 5.Modern Tool Usage; 6.The Engineer and*																

		Society; 7.Environment and Sustainability; 8.Ethics; 9.Individual and Teamwork; 10.Communication; 11.Project Management and Finance; 12.Life-long Learning; S1.Software Engineering; S2.Data Base Management; S3.Web Design

5. Curricular Gap and Content

Topics & contents not covered (from A.4), but essential for the course to address POs and PSOs.

Modules	Gap Topic	Actions Planned	Schedule Planned	Resources Person	PO Mapping
1					
2					
3					
4					
5					

6. Content Beyond Syllabus

Topics & contents required (from A.5) not addressed, but help students for Placement, GATE, Higher Education, Entrepreneurship, etc.

Modules	Gap Topic	Area	Actions Planned	Schedule Planned	Resources Person	PO Mapping
1						
1						
2						
2						
3						
3						
4						
4						
5						
5						

C. COURSE ASSESSMENT

1. Course Coverage

Assessment of learning outcomes for Internal and end semester evaluation. Distinct assignment for each student. 1 Assignment per chapter per student. 1 seminar per test per student.

Module #	Title	Teaching Hours	No. of question in Exam						CO	Levels
			CIA-1	CIA-2	CIA-3	Asg	Extra Asg	SEE		
1	Management:	10	2	-	-	1	1	2	CO1, CO2	L1, L2, L3
2	Resource Management:	10	2	-	-	1	1	2	CO3, CO4	L1, L2, L3
3	Construction Quality , safety and Human Values:	10	-	2	-	1	1	2	CO5, CO6	L1, L2, L3
4	Introduction to engineering economy Entrepreneurship:	10	-	2	-	1	1	2	CO7, C08	L1, L2, L3
5	Evolution of the concept, functions of an entrepreneur, cSmall &	10	-	-	4	1	1	2	CO9, CO10	L1, L2, L3

	Medium Enterprises (MSME)Business Planning Process:									
-	**Total**	**50**	**4**	**4**	**4**	**5**	**5**	**10**	-	-

2. Continuous Internal Assessment (CIA)

Assessment of learning outcomes for Internal exams. Blooms Level in last column shall match with A.2.

Evaluation	Weightage in Marks	CO	Levels
CIA Exam – 1	30	CO1, CO2, CO3, CO4	L2, l3, l4
CIA Exam – 2	30	CO5, CO6, CO7, C08	L2, L3, L4
CIA Exam – 3	30	CO9, CO10	L2, L3, L4
Assignment - 1	05	CO1, CO2, CO3, CO4	L2, l3, l4
Assignment - 2	05	CO5, CO6, CO7, C08	L2, L3, L4
Assignment - 3	05	CO9, CO10	L2, L3, L4
Seminar - 1			
Seminar - 2			
Seminar - 3			
Other Activities – define – Slip test			
Final CIA Marks	**40**	**-**	**-**

D1. TEACHING PLAN - 1

Module - 1

Title:	Management	Appr Time:	16 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	Understand characteristics of management and construction management process	CO1	L1, L2
2	Understand and solve variety of issues of construction encountered by every professional in discharging professional duties.	CO2	L3
b	***Course Schedule***	-	-
Class No	**Module Content Covered**	**CO**	**Level**
1	Characteristics of management, functions of management, importance and purpose of planning process.	CO1	L1
2	Types of plans Construction Project Formulation: Introduction to construction management	CO1	L1
3	Project organization, management functions, management styles	CO1	L2
4	Construction Planning and Scheduling	CO1	L2
5	Introduction, types of project plans.	CO1	L2
6	Work breakdown structure, Grant Chart.	CO2	L3
7	Preparation of network diagram- event.	CO2	L3
8	Activity based and its critical path-critical path method	CO2	L3
9	Concept of activity on arrow.	CO2	L3
10	Concept of activity on activity on node.	CO2	L3
c	**Application Areas**	**CO**	**Level**
1	In Companies and institutions	CO1	L3
d	**Review Questions**	-	-
1	Explain the characteristics of management.	CO1	L1
2	Explain the functions of management	CO1	L1
3	Explain the functions and styles of management in construction work	CO1	L3

4	Explain the work break down structure (WBS).	CO2	L2
5	Write a note on gantt Chart	CO2	L3
6	Explain the critical path metho7d	CO2	L3
7	Differentiate between AOA and AON network	CO2	L3
e	**Experiences**	-	-
1			
2			

Module – 2

Title:	Construction Planning and Scheduling	Appr Time:	10 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	Quality management	CO3	L1, L2
2	Material management	CO4	L3
b	***Course Schedule***	-	-
Class No	**Module Content Covered**	**CO**	**Level**
1	Basic concepts of resource management,	CO3	L1
2	Class of labour, Wages & statutory requirement,	CO3	L2
3	Labour Production rate or Productivity,	CO3	L3
4	Factors affecting labour output or productivity.	CO3	L3
5	Construction Equipments: classification of construction equipment,	CO3	L3
6	Estimation of productivity for: excavator, dozer, compactors, graders and dumpers.	CO4	L1
7	Estimation of ownership cost,	CO4	L1
8	operational and maintenance cost of construction equipments.	CO4	L2
9	Selection of construction equipment and basic concept on equipment maintenance	CO4	L3
10	Material management functions, inventory management.	CO4	L3
c	**Application Areas**	**CO**	**Level**
1	In construction of buildings	CO3	L3
d	**Review Questions**	-	-
1	Explain the physical resources required for project execution	CO3	L1
2	Describe labour production rate	CO3	L2
3	What are the factors affecting productivity?	CO3	L3
4	How to estimate the productivity for excavator?	CO3	L3
5	Explain the maintenance of equipments described the estimation of ownership cost, operational cost,	CO4	L1
6	Describe material management.	CO4	L2
7	Explain inventory management.	CO4	L3
8	Write a short note on functions of material management	CO4	L3
e	**Experiences**	-	-
1			
2			
3			
4			
5			

E1. CIA EXAM – 1

a. Model Question Paper - 1

Crs Code:		17CV61	Sem:	VI	Marks:	30	Time:	75 minutes		
Course:		Construction management and entrepreneurship								
-	**-**	**Note: Answer any 2 questions, each carry equal marks.**						**Marks**	**CO**	**Level**
1	a	Explain the characteristics of management.						08	CO1	L1
	b	Explain the functions of management						07	CO1	L3
		OR								
2	a	Explain the critical path method						08	CO2	L3
	b	Differentiate between AOA and AON network						07	CO2	L3
3	a	Explain the physical resources required for project execution						08	CO3	L1
	b	Describe labour production rate						07	CO3	L2
		OR								
4	a	Explain inventory management.						08	CO4	L3
	b	Write a short note on functions of material management						07	CO4	L3

b. Assignment -1

Note: A distinct assignment to be assigned to each student.

Model Assignment Questions										
Crs Code:		17CV61	Sem:	VI	Marks:	30	Time:	75 minutes		
Course:		Construction management and entrepreneurship								
Note: Each student to answer assignments. Each assignment carries equal mark.										
SNo	**USN**	**Assignment Description**						**Marks**	**CO**	**Level**
1		Explain the characteristics of management.						08	CO1	L1
2		Explain the functions of management						07	CO1	L1
3		Explain the functions and styles of management in construction work						08	CO1	L3
4		Explain the work break down structure (WBS).						07	CO2	L2
5		Write a note on gantt Chart						08	CO2	L3
6		Explain the critical path metho7d						07	CO2	L3
7		Differentiate between AOA and AON network						08	CO2	L3
8		Explain the physical resources required for project execution						07	CO3	L1
9		Describe labour production rate						08	CO3	L2
10		What are the factors affecting productivity?						07	CO3	L3
11		How to estimate the productivity for excavator?						08	CO3	L3
12		Explain the maintenance of equipments described the estimation of ownership cost, operational cost,						07	CO4	L1
13		Describe material management.						08	CO4	L2
14		Explain inventory management.						07	CO4	L3
15		Write a short note on functions of material management						08	CO4	L3
16		Explain the characteristics of management.						08	CO1	L1
17		Explain the functions of management						07	CO1	L1
18		Explain the functions and styles of management in construction work						08	CO1	L3
19		Explain the work break down structure (WBS).						07	CO2	L2
20		Write a note on gantt Chart						08	CO2	L3
21		Explain the critical path metho7d						07	CO2	L3
22		Differentiate between AOA and AON network						08	CO2	L3
23		Explain the physical resources required for project execution						07	CO3	L1
24		Describe labour production rate						08	CO3	L2
25		What are the factors affecting productivity?						07	CO3	L3
26		How to estimate the productivity for excavator?						08	CO3	L3
27		Explain the maintenance of equipments described the estimation of ownership cost, operational cost,						07	CO4	L1

28		Describe material management.	08	CO4	L2
29		Explain inventory management.	07	CO4	L3
30		Write a short note on functions of material management	08	CO4	L3
31		Explain the characteristics of management.	08	CO1	L1
32		Explain the functions of management	07	CO1	L1
33		Explain the functions and styles of management in construction work	08	CO1	L3
34		Explain the work break down structure (WBS).	07	CO2	L2
35		Write a note on gantt Chart	08	CO2	L3
36		Explain the critical path metho7d	07	CO2	L3
37		Differentiate between AOA and AON network	08	CO2	L3
38		Explain the physical resources required for project execution	07	CO3	L1
39		Describe labour production rate	08	CO3	L2
40		What are the factors affecting productivity?	07	CO3	L3
41		How to estimate the productivity for excavator?	08	CO3	L3
42		Explain the maintenance of equipments described the estimation of ownership cost, operational cost,	07	CO4	L1
43		Describe material management.	08	CO4	L2
44		Explain inventory management.	07	CO4	L3
45		Write a short note on functions of material management	08	CO4	L3
46		Explain the characteristics of management.	08	CO1	L1
47		Explain the functions of management	07	CO1	L1
48		Explain the functions and styles of management in construction work	08	CO1	L3
49		Explain the work break down structure (WBS).	07	CO2	L2
50		Write a note on gantt Chart	08	CO2	L3
51		Explain the critical path metho7d	07	CO2	L3
52		Differentiate between AOA and AON network	08	CO2	L3
53		Explain the physical resources required for project execution	07	CO3	L1
54		Describe labour production rate	08	CO3	L2
55		What are the factors affecting productivity?	07	CO3	L3
56		How to estimate the productivity for excavator?	08	CO3	L3
57		Explain the maintenance of equipments described the estimation of ownership cost, operational cost,	07	CO4	L1
58		Describe material management.	08	CO4	L2
59		Explain inventory management.	07	CO4	L3
60		Write a short note on functions of material management	08	CO4	L3
61		Explain the characteristics of management.	08	CO1	L1
62		Explain the functions of management	07	CO1	L1
63		Explain the functions and styles of management in construction work	08	CO1	L3
64		Explain the work break down structure (WBS).	07	CO2	L2
65		Write a note on gantt Chart	08	CO2	L3
66		Explain the critical path metho7d	07	CO2	L3
67		Differentiate between AOA and AON network	08	CO2	L3
68		Explain the physical resources required for project execution	07	CO3	L1
69		Describe labour production rate	08	CO3	L2
70		What are the factors affecting productivity?	07	CO3	L3
71		How to estimate the productivity for excavator?	08	CO3	L3
72		Explain the maintenance of equipments described the estimation of ownership cost, operational cost,	07	CO4	L1
73		Describe material management.	08	CO4	L2
74		Explain inventory management.	07	CO4	L3
75		Write a short note on functions of material management	08	CO4	L3
76		Explain the characteristics of management.	08	CO1	L1
77		Explain the functions of management	07	CO1	L1
78		Explain the functions and styles of management in construction work	08	CO1	L3

79		Explain the work break down structure (WBS).	07	CO2	L2
80		Write a note on gantt Chart	08	CO2	L3

D2. TEACHING PLAN - 2

Module – 3

Title:	Construction Quality and Human Values	Appr Time:	16 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	planning techniques.	CO5	L2
2	professional duties	CO6	L3
b	***Course Schedule***		
Class No	**Module Content Covered**	**CO**	**Level**
1	Construction quality	CO5	L3
2	Inspection, quality control and quality assurance,	CO5	L3
3	Total quality management , quality gurus and their teachings	CO5	L3
4	ISO Standards , morals , values and ethics, integrity	CO5	L3
5	Trustworthiness, work ethic, need of engineering ethics	CO5	L3
6	Professional duties, professional and Individual rights	CO5	L3
7	Confidential and proprietary information	CO6	L3
8	Conflict of interest confidentiality	CO6	L4
9	Gifts and bribes, occupational crimes	CO6	L4
10	Price fixing, whistle blowing.	CO6	L4
c	**Application Areas**	**CO**	**Level**
1		CO5	
2		CO6	
d	**Review Questions**	-	-
1	Define quality and what are the dimensions of quality?	CO5	L2
2	Define inspection and what are the types and functions of inspection?	CO5	L3
3	Describe quality control	CO5	L2
4	Describe quality assurance	CO5	L3
5	Explain the ISO Standards in construction project development.	CO5	L3
6	Differentiate between ethics and morals	CO6	L2
7	Explain integrity and trustworthiness.	CO6	L3
8	Write a short note on professional rights and employee rights.	CO6	L2
9	Explain gift and bribe.	CO6	L3
10	Explain conflict of interest.	CO6	L3
	Experiences	-	-
1			
2			
3			
4			

Module – 4

Title:	Entrepreneurship	Appr Time:	16 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	stages in entrepreneurial processes.	CO7	L3

2	economic development.	CO8	L3
b	***Course Schedule***		
Class No	**Module Content Covered**	**CO**	**Level**
1	Evolution of the concept	CO7	L3
2	Functions of an entrepreneur, concepts of entrepreneurship	CO7	L3
3	Stages in entrepreneurial process	CO7	L3
4	Different sources of finance for entrepreneur	CO7	L3
5	Central and state level financial institutions	CO7	L3
6	Micro small and medium enterprise (MSME) definition	CO8	L3
7	Characteristics, objectives, scope	CO8	L3
8	Role of MSME in econmic development	CO8	L3
9	Advantages of MSME, steps to start an MSME	CO8	L3
10	Different schemes : TECKSOK, KIADB, KSSIDC, DIC, Single window Agency; SISI, NSIC, SIDBI, KSFC	CO8	L3
c	**Application Areas**	**CO**	**Level**
1		CO7	L3
d	**Review Questions**	-	-
1	Describe how the role of economics gained importance in engineering activities.	CO8	L2
2	What is decision making? Explain the importance of decision making in organizations.	CO7	L3
3	Discuss the interest rate from the lenders and borrowers point of view.	CO8	L2
4	What is continuous interest? Give the expression for future value in terms of continuous interest.	CO8	L3
5	Derive any expression for total interest payable at the end of n years for an amount of P if interest rate is I and interest is compounded n number of times in a year.	CO7	L3
6	How much interest is earned on a principal of Rs.1750 for 5 years 9months at 6 percent compounded monthly?	CO7	L3
7	Find the effective interest rate if the rate of interest if 8% when compounded.(1)yearly (2)biannually (3)quarterly (4)monthly (5)daily. compare the results	CO8	L3
8	A person wishes to have a sum of Rs.1500000 for his daughter's marriage , 10 years from now .He plans to deposit a lumpsum amount which will fetch an interest rate of 6%compounded annually .Determine this sum.	CO8	L3
e	**Experiences**	-	-
1			
2			

E2. CIA EXAM – 2

a. Model Question Paper - 2

Crs Code:	17CV61	Sem:	VI	Marks:	30	Time:	75 minutes
Course:	Construction management and entrepreneurship						

-	-	**Note: Answer any 2 questions, each carry equal marks.**	**Marks**	**CO**	**Level**
1	a	Describe how the role of economics gained importance in engineering activities.	08	CO7	L2
	b	What is decision making? Explain the importance of decision making in organizations.	07	CO7	L3
		OR			
2	a	Discuss the interest rate from the lenders and borrowers point of view.	08	CO7	L2
	b	What is continuous interest? Give the expression for future value in terms of continuous interest.	07	CO7	L3

3	a	Derive any expression for total interest payable at the end of n years for an amount of P if interest rate is I and interest is compounded n number of times in a year.	08	CO8	L3
	b	How much interest is earned on a principal of Rs.1750 for 5 years 9months at 6 percent compounded monthly?	07	CO8	L3
		OR			
4	a	Find the effective interest rate if the rate of interest if 8% when compounded.(1)yearly (2)biannually (3)quarterly (4)monthly (5)daily. compare the results	08	CO8	L3
	b	A person wishes to have a sum of Rs.1500000 for his daughter's marriage ,10 years from now .He plans to deposit a lumpsum amount which will fetch an interest rate of 6%compounded annually .Determine this sum.	07	CO8	L3

b. Assignment – 2

Note: A distinct assignment to be assigned to each student.

Model Assignment Questions							
Crs Code:	17CV61	Sem:	VI	Marks:	30	Time:	75 minutes
Course:	Construction management and entrepreneurship						
Note: Each student to answer 2-3 assignments. Each assignment carries equal mark.							

SNo	USN	Assignment Description	Marks	CO	Level
1		Define quality and what are the dimensions of quality?	08	CO6	L2
2		Define inspection and what are the types and functions of inspection?	07	CO6	L3
3		Describe quality control	08	CO6	L3
4		Describe quality assurance	07	CO6	L3
5		Explain the ISO Standards in construction project development.	08	CO6	L2
6		Differentiate between ethics and morals	07	CO7	L2
7		Explain integrity and trustworthiness.	08	CO7	L3
8		Write a short note on professional rights and employee rights.	07	CO7	L3
9		Explain gift and bribe.	08	CO7	L3
10		Explain conflict of interest.	07	CO7	L2
11		Describe how the role of economics gained importance in engineering activities.	08	CO8	L2
12		What is decision making? Explain the importance of decision making in organizations.	07	CO8	L3
13		Discuss the interest rate from the lenders and borrowers point of view.	08	CO8	L3
14		What is continuous interest? Give the expression for future value in terms of continuous interest.	07	CO8	L3
15		Derive any expression for total interest payable at the end of n years for an amount of P if interest rate is I and interest is compounded n number of times in a year.	08	CO9	L2
16		How much interest is earned on a principal of Rs.1750 for 5 years 9months at 6 percent compounded monthly?	07	CO9	L2
17		Find the effective interest rate if the rate of interest if 8% when compounded.(1)yearly (2)biannually (3)quarterly (4)monthly (5)daily. compare the results	08	CO9	L3
18		A person wishes to have a sum of Rs.1500000 for his daughter's marriage ,10 years from now .He plans to deposit a lumpsum amount which will fetch an interest rate of	07	CO9	L3

		6%compounded annually .Determine this sum.			
19		Define quality and what are the dimensions of quality?	08	CO6	L2
20		Define inspection and what are the types and functions of inspection?	07	CO6	L3
21		Describe quality control	08	CO6	L3
22		Describe quality assurance	07	CO6	L3
23		Explain the ISO Standards in construction project development.	08	CO6	L2
24		Differentiate between ethics and morals	07	CO7	L2
25		Explain integrity and trustworthiness.	08	CO7	L3
26		Write a short note on professional rights and employee rights.	07	CO7	L3
27		Explain gift and bribe.	08	CO7	L3
28		Explain conflict of interest.	07	CO7	L2
29		Describe how the role of economics gained importance in engineering activities.	08	CO8	L2
30		What is decision making? Explain the importance of decision making in organizations.	07	CO8	L3
31		Discuss the interest rate from the lenders and borrowers point of view.	08	CO8	L3
32		What is continuous interest? Give the expression for future value in terms of continuous interest.	07	CO8	L3
33		Derive any expression for total interest payable at the end of n years for an amount of P if interest rate is I and interest is compounded n number of times in a year.	08	CO9	L2
34		How much interest is earned on a principal of Rs.1750 for 5 years 9months at 6 percent compounded monthly?	07	CO9	L2
35		Find the effective interest rate if the rate of interest if 8% when compounded.(1)yearly (2)biannually (3)quarterly (4)monthly (5)daily. compare the results	08	CO9	L3
36		A person wishes to have a sum of Rs.1500000 for his daughter's marriage ,10 years from now .He plans to deposit a lumpsum amount which will fetch an interest rate of 6%compounded annually .Determine this sum.	07	CO9	L3
37		Define quality and what are the dimensions of quality?	08	CO6	L2
38		Define inspection and what are the types and functions of inspection?	07	CO6	L3
39		Describe quality control	08	CO6	L3
40		Describe quality assurance	07	CO6	L3
41		Explain the ISO Standards in construction project development.	08	CO6	L2
42		Differentiate between ethics and morals	07	CO7	L2
43		Explain integrity and trustworthiness.	08	CO7	L3
44		Write a short note on professional rights and employee rights.	07	CO7	L3
45		Explain gift and bribe.	08	CO7	L3
46		Explain conflict of interest.	07	CO7	L2
47		Describe how the role of economics gained importance in engineering activities.	08	CO8	L2
48		What is decision making? Explain the importance of decision making in organizations.	07	CO8	L3
49		Discuss the interest rate from the lenders and borrowers point of view.	08	CO8	L3
50		What is continuous interest? Give the expression for future value in terms of continuous interest.	07	CO8	L3
51		Derive any expression for total interest payable at the end of n years for an amount of P if interest rate is I and interest is compounded n number of times in a year.	08	CO9	L2
52		How much interest is earned on a principal of Rs.1750 for 5 years 9months at 6 percent compounded monthly?	07	CO9	L2
53		Find the effective interest rate if the rate of interest if 8% when	08	CO9	L3

		compounded.(1)yearly (2)biannually (3)quarterly (4)monthly (5)daily. compare the results			
54		A person wishes to have a sum of Rs.1500000 for his daughter's marriage ,10 years from now .He plans to deposit a lumpsum amount which will fetch an interest rate of 6%compounded annually .Determine this sum.	07	CO9	L3
55		Define quality and what are the dimensions of quality?	08	CO6	L2
56		Define inspection and what are the types and functions of inspection?	07	CO6	L3
57		Describe quality control	08	CO6	L3
58		Describe quality assurance	07	CO6	L3
59		Explain the ISO Standards in construction project development.	08	CO6	L2
60		Differentiate between ethics and morals	07	CO7	L2
61		Explain integrity and trustworthiness.	08	CO7	L3
62		Write a short note on professional rights and employee rights.	07	CO7	L3
63		Explain gift and bribe.	08	CO7	L3
64		Explain conflict of interest.	07	CO7	L2
65		Describe how the role of economics gained importance in engineering activities.	08	CO8	L2
66		What is decision making? Explain the importance of decision making in organizations.	07	CO8	L3
67		Discuss the interest rate from the lenders and borrowers point of view.	08	CO8	L3
68		What is continuous interest? Give the expression for future value in terms of continuous interest.	07	CO8	L3
69		Derive any expression for total interest payable at the end of n years for an amount of P if interest rate is I and interest is compounded n number of times in a year.	08	CO9	L2
70		How much interest is earned on a principal of Rs.1750 for 5 years 9months at 6 percent compounded monthly?	07	CO9	L2
71		Find the effective interest rate if the rate of interest if 8% when compounded.(1)yearly (2)biannually (3)quarterly (4)monthly (5)daily. compare the results	08	CO9	L3
72		A person wishes to have a sum of Rs.1500000 for his daughter's marriage ,10 years from now .He plans to deposit a lumpsum amount which will fetch an interest rate of 6%compounded annually .Determine this sum.	07	CO9	L3
73		Define quality and what are the dimensions of quality?	08	CO6	L2
74		Define inspection and what are the types and functions of inspection?	07	CO6	L3
75		Describe quality control	08	CO6	L3
76		Describe quality assurance	07	CO6	L3
77		Explain the ISO Standards in construction project development.	08	CO6	L2
78		Differentiate between ethics and morals	07	CO7	L2
79		Explain integrity and trustworthiness.	08	CO7	L3
80		Write a short note on professional rights and employee rights.	07	CO7	L3

D3. TEACHING PLAN - 3

Module – 5

Title:	Business Planning Process.	Appr Time:	16 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	understand business planning process	CO9	L3

2	understand the nature of international entrepreneurship.	CO10	L3
b	***Course Schedule***		
Class No	**Module Content Covered**	**CO**	**Level**
1	Business planning process	CO9	L2
2	Marketing plan, financial plan	CO9	L3
3	Project report and feasibility study	CO9	L4
4	Preparing a model project report for starting a new venture	CO9	L3
5	International entrepreneurship opportunities the nature of international entrepreneurship	CO9	L4
6	Entry in to international business	CO9	L3
7	exporting	CO9	L3
8	Direct foreign investment	CO9	L3
9	Venture capital	CO9	L3
10	Barriers to international trade	CO10	L2
c	**Application Areas**	**CO**	**Level**
1		CO9	L4
2		CO10	L3
d	**Review Questions**	-	-
1	Explain in brief the role of Entrepreneurship in economic development.	CO9	L2
2	What do you mean by small scale industry?	CO9	L2
3	List the characteristics of small scale scale industries.	CO9	L2
4	What is buisness plan?.	CO10	L2
5	Explain the importance of buisness plan	CO10	L3
6	Explain in detail the contents of a good project report.	CO10	L3
e	**Experiences**	-	-
1		CO10	L2
2			

E3. CIA EXAM – 3

a. Model Question Paper – 3

Crs Code:	17CV61	Sem:	VI	Marks:	30	Time:	75 minutes		
Course:	Construction management and entrepreneurship								
-	**-**	**Note: Answer any 2 questions, each carry equal marks.**					**Marks**	**CO**	**Level**
1	a	Explain in brief the role of Entrepreneurship in economic development.					08	CO9	L2
	b	What do you mean by small scale industry?					07	CO9	L3
		OR							
2	a	List the characteristics of small scale scale industries.					08	CO9	L3
	b	What is buisness plan?.					07	CO9	L3
3	a	Explain the importance of buisness plan					08	CO10	L3
	b	Explain in detail the contents of a good project report.					07	CO10	L4
		or							
4	a	Describe quality control					08	CO10	L3
	b	Describe quality assurance					07	CO10	L3

b. Assignment – 3

Note: A distinct assignment to be assigned to each student.

Model Assignment Questions							
Crs Code:	17CV61	Sem:	VI	Marks:	30	Time:	75 minutes
Course:	Construction management and entrepreneurship						
Note: Each student to answer 2-3 assignments. Each assignment carries equal mark.							

SNo	USN	Assignment Description	Marks	CO	Level
1		Explain in brief the role of Entrepreneurship in economic	08	CO9	L2

		development.			
2		What do you mean by small scale industry?	07	CO9	L2
3		List the characteristics of small scale scale industries.	08	CO9	L2
4		What is buisness plan?.	07	CO10	L2
5		Explain the importance of buisness plan	08	CO10	L3
6		Explain in detail the contents of a good project report.	07	CO10	L3
7		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
8		What do you mean by small scale industry?	07	CO9	L2
9		List the characteristics of small scale scale industries.	08	CO9	L2
10		What is buisness plan?.	07	CO10	L2
11		Explain the importance of buisness plan	08	CO10	L3
12		Explain in detail the contents of a good project report.	07	CO10	L3
13		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
14		What do you mean by small scale industry?	07	CO9	L2
15		List the characteristics of small scale scale industries.	08	CO9	L2
16		What is buisness plan?.	07	CO10	L2
17		Explain the importance of buisness plan	08	CO10	L3
18		Explain in detail the contents of a good project report.	07	CO10	L3
19		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
20		What do you mean by small scale industry?	07	CO9	L2
21		List the characteristics of small scale scale industries.	08	CO9	L2
22		What is buisness plan?.	07	CO10	L2
23		Explain the importance of buisness plan	08	CO10	L3
24		Explain in detail the contents of a good project report.	07	CO10	L3
25		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
26		What do you mean by small scale industry?	07	CO9	L2
27		List the characteristics of small scale scale industries.	08	CO9	L2
28		What is buisness plan?.	07	CO10	L2
29		Explain the importance of buisness plan	08	CO10	L3
30		Explain in detail the contents of a good project report.	07	CO10	L3
31		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
32		What do you mean by small scale industry?	07	CO9	L2
33		List the characteristics of small scale scale industries.	08	CO9	L2
34		What is buisness plan?.	07	CO10	L2
35		Explain the importance of buisness plan	08	CO10	L3
36		Explain in detail the contents of a good project report.	07	CO10	L3
37		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
38		What do you mean by small scale industry?	07	CO9	L2
39		List the characteristics of small scale scale industries.	08	CO9	L2
40		What is buisness plan?.	07	CO10	L2
41		Explain the importance of buisness plan	08	CO10	L3
42		Explain in detail the contents of a good project report.	07	CO10	L3
43		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
44		What do you mean by small scale industry?	07	CO9	L2
45		List the characteristics of small scale scale industries.	08	CO9	L2
46		What is buisness plan?.	07	CO10	L2
47		Explain the importance of buisness plan	08	CO10	L3
48		Explain in detail the contents of a good project report.	07	CO10	L3
49		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
50		What do you mean by small scale industry?	07	CO9	L2

51		List the characteristics of small scale scale industries.	08	CO9	L2
52		What is buisness plan?.	07	CO10	L2
53		Explain the importance of buisness plan	08	CO10	L3
54		Explain in detail the contents of a good project report.	07	CO10	L3
55		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
56		What do you mean by small scale industry?	07	CO9	L2
57		List the characteristics of small scale scale industries.	08	CO9	L2
58		What is buisness plan?.	07	CO10	L2
59		Explain the importance of buisness plan	08	CO10	L3
60		Explain in detail the contents of a good project report.	07	CO10	L3
61		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
62		What do you mean by small scale industry?	07	CO9	L2
63		List the characteristics of small scale scale industries.	08	CO9	L2
64		What is buisness plan?.	07	CO10	L2
65		Explain the importance of buisness plan	08	CO10	L3
66		Explain in detail the contents of a good project report.	07	CO10	L3
67		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
68		What do you mean by small scale industry?	07	CO9	L2
69		List the characteristics of small scale scale industries.	08	CO9	L2
70		What is buisness plan?.	07	CO10	L2
71		Explain the importance of buisness plan	08	CO10	L3
72		Explain in detail the contents of a good project report.	07	CO10	L3
73		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
74		What do you mean by small scale industry?	07	CO9	L2
75		List the characteristics of small scale scale industries.	08	CO9	L2
76		What is buisness plan?.	07	CO10	L2
77		Explain the importance of buisness plan	08	CO10	L3
78		Explain in detail the contents of a good project report.	07	CO10	L3
79		Explain in brief the role of Entrepreneurship in economic development.	08	CO9	L2
80		What do you mean by small scale industry?	07	CO9	L2

F. EXAM PREPARATION

1. University Model Question Paper

2. SEE Important Questions

Course Outcome Computation

Academic Year:

Odd / Even semester

INTERNAL TEST			**T1**						**T2**						**T3**			
Course Outcome	**CO1**		**CO2**		**CO3**		**CO4**		**CO5**		**CO6**		**CO7**		**CO8**			
QUESTION NO	**Q1**	**LV**	**Q2**	**LV**	**Q3**	**LV**	**Q1**	**LV**	**Q2**	**LV**	**Q3**	**LV**	**Q1**	**LV**	**Q2**	**LV**
MAX MARKS																
USN-1																
USN-2																
USN-3																
USN-4																
USN-5																
USN-6																
Average CO Attainment																

LV Threshold : 3:>60%, 2:>=50% and <=60%, 1: <=49%
CO1 Computation :(2+2+2+3)/4 = 10/4=2.5

PO Computation

Program Outcome Weight of CO - PO	PO1		PO3		PO3		PO1		PO12		PO12		PO6		PO1	
Course Outcome	CO1		CO2		CO3		CO4		CO5		CO6		CO7		CO8	
Test/Quiz/Lab	T1						T2						T3			
QUESTION NO	Q1	LV	Q2	LV	Q3	LV	Q1	LV	Q2	LV	Q3	LV	Q1	LV	Q2	LV
MAX MARKS																
USN-1																
USN-2																
USN-3																
USN-4																
USN-5																
USN-6																
Average CO																

Attainment