LESSON PLAN

Name of the faculty: Chetna

Discipline: Civil

Semester: 6th

Subject: C.M.A

Lesson Plan Duration: 15 week (from March to July 2022)

****Work Load (Lecture) per week (in hours):**Theory-05

Week	**Theory**	
	Lecture Day	**Topic (including assignment/test)**
1st	**1st**	**UNIT:-1** Introduction to construction management
	2nd	Significance of construction management,Main objectives of construction management and overview of the subject
	3rd	Functions of construction management, planning, organising, staffing,directing, controling and coordinating
	4th	Classification of construction into light, heavy and industrial
	5th	construction.Stages in construction from conception to completion
2nd	**1st**	The construction team: owner, engineer, architect and contractors, their function and inter relationship
	2nd	**Unit 2:-** Importance of construction planning.Stages of construction planning- Pre-tender stage,contract stage
	3rd	Scheduling construction works by bar charts-

LESSON PLAN

	4th	definition of activity, identification of activities.
	5th	Preparation of bar charts for simple construction work
3rd	**1st**	Preparation of schedules for labour, materials, machinery and finances of small work, Limitation of bar chart
	2nd	Scheduling by network techniques-Introduction to network techniques, PERT and CPM
	3rd	Differences between PERT and CPM
	4th	**UNIT:-3** Organization: Types of organizations
	5th	Disscuss previous chapter problem
4th	**1st**	Line, line and staff, functional
	2nd	characteristics of organization
	3rd	Assignements given based on samples question papers
	4th	**UNIT:- 4** Principle of storing and stacking materials at site
	5th	Class test
5th	**1st**	Location of equipment
	2nd	Preparation of actual job layout for a building
	3rd	Organizing labour at site.
	4th	**UNIT:-5** Conditions of construction workers in India, wages paid to workers
	5th	Important provisions of the following Acts;-Labour welfare Fund Act 1936 (as amended)
6th	**1st**	Minimum Wages Act 1948 (as amended)
	2nd	**Revision**
	3rd	**UNIT:-6**

LESSON PLAN

		Introduction
	4th	Methods of recording progress
	5th	Analysis of progress
7th	**1st**	Taking corrective actions keeping head office informed
	2nd	**SESSIONAL WEEK**
	3rd	
	4th	
	5 th	Cost time optimization for simple jobs -
8th	**1st**	Direct cost and indirect cost
	2nd	indirect cost, variation with time
	3rd	cost optimization
	4th	**UNIT- 7** Inspection and QualityControl
	5 th	Need for inspection and quality control
9th	**1st**	Principles of inspection
	2nd	Stages of inspection and quality control for- Earth work
	3rd	Stages of inspection and quality control for-masonary work
	4th	Stages of inspection and quality control for-RCC
	5 th	Disscussing previous problem
10th	**1st**	Stages of inspection and quality control for-Sanitary and water supply services
	2nd	**UNIT-8** Accidents – causes and remedies
	3rd	Safety measures for-Excavation work
	4th	Safety measures for-Drilling
	5 th	Safety measures for Blasting

LESSON PLAN

11th	**1st**	Safety measures for-Hot bitumenous work
	2nd	Safety measures for-Scaffolding, ladders, form work
	3rd	Safety measures for-Demolitions.Safety campaign and safety devices
	4th	Assignements given based on samples question papers
	5 th	Class test
12th	**1st**	**UNIT:-9** Introduction, technical sanction.Administrative approval, allotment of funds,
	2nd	re-appropriation of fund bill,contactor ledger
	3rd	Measurement book running and final account bills complete,
	4th	preparation of bill of quantities (BOQ),
	5 th	Completion certificate& report.
13th	**1st**	Hand receipt, aquittance roll. , muster roll labour
	2nd	Casual labour roll-duties and responsibilityof different cadres
	3rd	Budget-stores, returns account of stock, misc,P.W advances T & P-verification
	4th	road metal material charged direct to work
	5 th	Survey report
14th	**1st**	Account expenditure & revenue head, remittance and deposit head, defintion of cash
	2nd	preccaution in custody of cash book, imprest account, temporary advance
	3rd	Treasury challan,
	4th	account register, stock register.
	5 th	prepration of final bills.
15th	**1st**	Assignements given based on samples question papers
	2nd	Revision of whole syllabus

LESSON PLAN

	3rd	**SESSIONAL WEEK**
	4th	
	5 th	

S

Name oftheFaculty : **Chetna**

Discipline : **Civil Engineering**

Semester : **6_{th}**

Subject : **Earthquake Resistant Building Construction**

Lesson PlanDuration: **15 Weeks(from March. 2022 to july2022)**

Week	Theory	
	Lecture Day	**Topic (including assignment / test)**
1st	1	**Introduction to the Subject and its necessity**
	2	**1. Elements of Engineering Seismology :** General features of tectonic of seismic regions.
	3	Causes of earthquakes, Seismic waves,
2nd	1	Earthquake size (magnitude and intensity),
	2	Epicentre, Seismograph,
	3	Classification of earthquakes,
3rd	1	Seismic zoning map of India,
	2	Static and Dynamic Loading, Fundamental period.
	3	**2. Seismic Behaviour of Traditionally-Built Constructions of India :** Performance of building during earthquakes
4th	1	Mode of failure: Out-of-plane failure, in-plane failure,
	2	Mode of failure: Diaphragm failure, Connection failure,
	3	Mode of failure: Non-structural components failure
5th	1	**Revision/Assignment-I**
	2	**Sessional Test -I**
	3	**3. Special construction method :** Special construction methods
6th	1	Special construction methods
	2	Tips and Precautions to be observed while planning,
	3	Designing and Construction of earthquake resistant building.
7th	1	Designing and Construction of earthquake resistant building.
	2	Designing and Construction of earthquake resistant building.
	3	**4. Introduction to various Seismic IS codes :** IS: 4326, IS: 13828,
8th	1	IS: 1893(Part 1),
	2	IS: 154326 and
	3	IS: 13920 (latest edition)
9th	1	**Revision/Assignment-II**
	2	**5. Seismic Provision of Strengthening and Retrofitting :** Seismic Provision of Strengthening and Retrofitting
	3	Seismic Provision of Strengthening and Retrofitting
10th	1	Measures for Traditionally-Built Constructions,
	2	Brick and RCC Structures
	3	Brick and RCC Structures
11th	1	Revision/Quarries
	2	**Sessional Test -II**
	3	**6. Provision of reinforcement detailing in masonry and RC constructions :**

12th	1	Provision of reinforcement detailing in masonry constructions
	2	Provision of reinforcement detailing in RC constructions
	3	Provision of reinforcement detailing in RC constructions
13th	1	Provision of reinforcement detailing in RC constructions
	2	**7. Disaster Management :** Disaster rescue, Psychology of rescue,
	3	Rescue workers, Rescue plan,
14th	1	Rescue by steps,
	2	Rescue equipment,
	3	Safety in rescue operations,
15th	1	Debris clearance
	2	Casuality management
	3	**Sessional Test -III**

Name oftheFaculty : **Sunita**

Discipline : **Civil Engineering**

Semester : **6th**

Subject : **QUANTITY SURVEYING ANDVALUATION**

Lesson PlanDuration: **15 Weeks(from March. 2022 to july 2022)**

Week	Theory	
	Lecture Day	**Topic (including assignment / test)**
1st	1st	**Introduction to the Subject and its necessity**
	2nd	**1. Introduction to quantity surveying and its importance.**
	3rd	Duties of quantity surveyor
	4th	**2. Types ofestimates** 2.1 Preliminary estimates - Plinth area estimate Cubic rate estimate,- Estimate per unitbase
2nd	1	2.2 Detailed estimates – Definition, - Stages of preparation, – details of measurement and calculation of quantities and abstract
	2	- Stages of preparation – details of measurement and calculation of quantities and abstract
	3	**3. Measurement** 3.1 Units of measurement for various items of work as perBIS:1200 3.2 Rules formeasurements
	4	3.3 Different methods of taking out quantities – centre line method
3rd	1	3.3 Different methods of taking out quantities – long wall and short wall method
	2	Practice of taking out quantities
	3	**4. Preparation of Detailed and Abstract Estimates from Drawings for:** 4.1 A small residential building with a flat roof and pitched roof building comprisingof - Two rooms with W.C., bath, kitchen and verandah
	4	- Two rooms with W.C., bath, kitchen and verandah
4th	1	- Two rooms with W.C., bath, kitchen and verandah
	2	- Two rooms with W.C., bath, kitchen and verandah
	3	4.2 Earthwork for unlined channel
	4	4.2 Earthwork for unlined channel
5th	1	4.3 WBM road and pre-mix carpeting
	2	**Revision/Assignment-I**
	3	**Test -I**
	4	4.4 Single span RCC slab culvert
6th	1	4.4 Single span RCC slab culvert
	2	4.5 Earthwork for plain and hill roads
	3	4.5 Earthwork for plain and hill roads
	4	4.5 Earthwork for plain and hill roads

7th	1	4.6 RCC work in beams, slab, column and lintel, foundations
	2	4.6 RCC work in beams, slab, column and lintel, foundations
	3	4.7 users septic tank - 10 users - 50 users
	4	4.7 users septic tank - 10 users - 50 users
8th	1	4.7 users septic tank - 10 users
	2	4.7 users septic tank - 50 users
	3	4.7 users septic tank - 50 users
	4h	**5. Calculation of quantities of materialsfor** 5.1 Cement mortars of differentproportion
9th	1	5.3 Brick/stone masonry in cement mortar
	2	5.4 Plastering and pointing
	3d	5.5 White washing, painting
	4	5.6 R.C.C. work in slab, beams
10th	1	**6. Analysis ofRates** 6.1 Steps involved in the analysis of rates. Requirement of material, labour, sundries, contractor's profit andoverheads
	2	6.2 Analysis of rates for finished items when data regarding labour, rates of material and labour is given: - Earthwork in excavation in hard/ordinary soil and filling with a concept of lead and lift
	3	- RCC in roof slab/beam/lintels/columns
	4	- Brick masonry in cement mortar
11th	1	- Stone masonry in cement mortar
	2	6.3 Running and maintenance cost of construction equipment
	3	**Revision/Assignment-II**
	4	**7 Contractor-ship** - Meaning ofcontract - Qualities of a good contractor and theirqualifications
12th	1	- Essentials of a contract
	2	- Types of contracts, their advantages, dis-advantages and suitability, system of payment
	3	- Single and two cover-bids; tender, tender forms and documents, tender notice, submission of tender and deposit of earnest money, security deposit, retention money, maintenance period
	4	**8 Preparation of Tender Document based on Common Schedule Rates (CSR)** - Introduction to CSR and calculation of cost based on premium on CSR

13th	1	- Exercises on writing detailed specifications of different types of building works from excavation to foundations, superstructure and finishing operation
	2	**Revision**
	3	- Exercises on preparing tender documents for the following a) Earth work
	4	c) RCCworks d) Pointing, plastering andflooring
14th	1	e) White-washing, distempering andpainting f) Wood work includingpolishing g) Sanitary and water supply installations
	2	j) Construction of W.B.M/Concrete road
	3	**9. Exercises on preparation of comparative statements for item rate contract**
	4	**10. Valuation** a) Purpose of valuation, principles of valuation
15th	1	b) Definition of various terms related to valuation like depreciation, sinking fund, salvage and scrap value, market value, fair rent, year's purchase etc.
	2	c) Methods of valuation (i) replacement cost method
	3	c) Methods of valuation (ii) rental return method
	4	**Assignment-III**

Lesson Plan

Name of the faculty : REEMA

Discipline : Civil Engineering

Semester : 6th Semester

Subject : Steel Structures Design

Lesson Plan Duration : 15 weeks (from March, 2022 to July, 2022)

Work Load (Lecture) per week (in hours): Lectures-04

Week	Lecture Day	Theory
		Topic (Including assignment/test)
1st	1	Properties of structural steel as per IS code
	2	Designation of structural steel as per IS 800-2007
	3	Riveted Connections- Types of rivets, permissible stresses in rivets
	4	Specifications for riveted joints as per IS 800-2007. Failure of a riveted joint.
2nd	5	Assumptions in the theory of riveted joints. Strength & Specification of riveted joints
	6	Design of riveted joints for axially loaded members, Numerical problems and doubts
	7	Bolted and welded connections- Types of bolts and bolted joints
	8	Specification for bolted as per IS 800-2007, Types of welds and welded joints
3rd	9	Advantages & Disadvantages of welded joints and bolted joints
	10	Design of fillet & butt weld, Plug and slot welds
	11	Numerical problems and doubts
	12	Tension Members- Analysis of single angle section
4th	13	Design of single angle section
	14	Numerical problem on single angle section
	15	Analysis of double angle section
	16	Design of double angle section
5th	17	Assignment-I & Revision
	18	Sessional Exam
	19	Numerical problems on double angle section
	20	Riveted connection of single angle section as per IS 800-2007
6th	21	Numerical problems on riveted connection of single angle section
	22	Riveted connection of double angle section as per IS 800-2007
	23	Numerical problem on riveted connection of double angle section
	24	Numerical problems and doubts in Tension members
	25	Compression Members- Analysis of single angle section Design of single angle section

7th	26	Numerical problem on single angle section
	27	Analysis of double angle section, Design of double angle section
	28	Numerical problems on double angle section
8th	29	Numerical problem on single and double angle section and doubts
	30	Riveted connection of single angle section as per IS 800-2007
	31	Numerical problems on riveted connection of single angle section
	32	Riveted connection of double angle section as per IS 800-2007
9th	33	Numerical problem on riveted connection of double angle section
	34	Numerical problems and doubts in Tension members
	35	Roof Trusses – Form of trusses, pitch of roof truss
	36	Spacing of truss,purlins
10th	37	Sessional Exam
	38	Connection between purlin and roof covering
	39	Connection between purlin and principal rafter
	40	Columns- Concept of buckling of columns
11th	41	Effective length and slenderness ratio
	42	Permissible stress in compression as per IS 800 for different end conditions
	43	Analysis and Design of axially loaded columns single section steel column
	44	Beam and column connections, Types of bases
12th	45	Frame and seated connections
	46	Numerical problems
	47	Beams- Analysis of single section simply supported laterally restrained steel beams.
	48	Design of single section simply supported laterally restrained steel beams.
13th	49	Numerical problems
	50	Introduction to plate girder
	51	Functions of various elements of a plate girder
	52	Numerical problems
14th	53	Fabrication of steel structure, Erection of steel structure
	54	Masonry Structures- Design of brick column
	55	Design of wall foundations
	56	Numerical problems
15th	57	Assignment and Revision
	58	Revision
	59	Sessional Exam
	60	Revision

Lesson Plan

Name of the faculty : REEMA

Discipline : Civil Engineering

Semester : 6th Semester

Subject : Steel Structures Drawing

Lesson Plan Duration : 15 weeks (from March, 2022 to July, 2022)

Work Load (Lecture) per week (in hours): Practicals-03

Week	Lecture Day	Theory
1st	1st	Roof Truss – Drawing of Fink Roof Truss with details of joints
2nd	2nd	fixing details of purlins and roof sheets
3rd	3rd	Column and Column Bases - Drawing of splicing of steel columns
4th	4th	Drawings of slab base
5th	5th	gusseted base and grillage base for single section steel columns.
6th	6th	Sealed and Framed Beam to Beam Connections
7th	7th	-do-
8th	8th	Sealed and Framed Beam to Column Connections
9th	9th	-do-
10th	10th	Plan and Elevation of Plate Girder with details at supports and connection of stiffness
11th	11th	-do-
12th	12th	flange angles and cover plate with web highlighting curtailment of plates
13th	13th	-do-
14th	14th	Draw at least one sheet using CAD software
15th	15th	-do-