

Lesson Plan

Name of the Faculty :		L	T	P
Discipline :	Civil Engineering	3	-	-
Semester :	6 th			
Subject :	Earthquake Resistant Building Construction			
Lesson Plan Duration :	15 Weeks (from Jan-2018 to Apr-2018)			

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1 st	Introduction to the Subject and its necessity
	2 nd	1. Elements of Engineering Seismology : General features of tectonic of seismic regions.
	3 rd	Causes of earthquakes, Seismic waves,
2 nd	4 th	Earthquake size (magnitude and intensity),
	5 th	Epicentre, Seismograph,
	6 th	Classification of earthquakes,
3 rd	7 th	Seismic zoning map of India,
	8 th	Static and Dynamic Loading, Fundamental period.
	9 th	2. Seismic Behaviour of Traditionally-Built Constructions of India : Performance of building during earthquakes
4 th	10 th	Mode of failure: Out-of-plane failure, in-plane failure,
	11 th	Mode of failure: Diaphragm failure, Connection failure,
	12 th	Mode of failure: Non-structural components failure
5 th	13 th	Revision/Quarries/Assignment-I
	14 th	Sessional Test -I
	15 th	3. Special construction method : Special construction methods
6 th	16 th	Special construction methods
	17 th	Tips and Precautions to be observed while planning,
	18 th	Designing and Construction of earthquake resistant building.
7 th	19 th	Designing and Construction of earthquake resistant building.
	20 th	Designing and Construction of earthquake resistant building.
	21 st	4. Introduction to various Seismic IS codes : IS: 4326, IS: 13828,
8 th	22 nd	IS: 1893(Part 1),
	23 rd	IS: 154326 and
	24 th	IS: 13920 (latest edition)
9 th	25 th	Revision/Quarries/Assignment-II
	26 th	5. Seismic Provision of Strengthening and Retrofitting : Seismic Provision of Strengthening and Retrofitting
	27 th	Seismic Provision of Strengthening and Retrofitting
10 th	28 th	Measures for Traditionally-Built Constructions,
	29 th	Brick and RCC Structures
	30 th	Brick and RCC Structures
11 th	31 st	Revision/Quarries
	32 nd	Sessional Test -II
	33 rd	6. Provision of reinforcement detailing in masonry and RC constructions :

		Provision of reinforcement detailing in masonry constructions
12 th	34 th	Provision of reinforcement detailing in masonry constructions
	35 th	Provision of reinforcement detailing in RC constructions
	36 th	Provision of reinforcement detailing in RC constructions
13 th	37 th	Provision of reinforcement detailing in RC constructions
	38 th	7. Disaster Management : Disaster rescue, Psychology of rescue,
	39 th	Rescue workers, Rescue plan,
14 th	40 th	Rescue by steps,
	41 st	Rescue equipment,
	42 nd	Safety in rescue operations,
15 th	43 rd	Debris clearance and Casualty management
	44 th	Revision/Quarries/Assignment-III
	45 th	Sessional Test -III

Lesson Plan

Name of the Faculty :		L	T	P
Discipline :	Civil Engineering	5	-	-
Semester :	6 th			
Subject :	RAILWAYS, BRIDGES AND TUNNELS			
Lesson Plan Duration :	15 Weeks (from Jan-2018 to Apr-2018)			

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1 st	Introduction to the Subject and its necessity
	2 nd	PART – I: RAILWAYS 1. Introduction to Indian Railways
	3 rd	2. Railway surveys: Factors influencing the railways route
	4 th	brief description of various types of railway survey
	5 th	3. Classification of permanent way describing its component parts
2 nd	6 th	4. Rail Gauge: Definition, types, practice in India
	7 th	5. Rails – types of rails
	8 th	Revision/Quarries
	9 th	6. Rail Fastenings: Rail joints, types of rail joints,
	10 th	fastenings for rails,
3 rd	11 th	fish plates, bearing plates
	12 th	7. Sleepers: Functions of sleepers, types of sleepers,
	13 th	Requirements of an ideal material for sleepers.
	14 th	8. Ballast: Function of ballast,
	15 th	Requirements of an ideal material for ballast
4 th	16 th	Revision/Quarries
	17 th	9. Crossings and signalings: Brief description regarding different types of crossings/signalings
	18 th	Crossings and signalings: Brief description regarding different types of crossings (Latest electronics operated signal devices)
	19 th	Crossings and signalings: Brief description regarding different types of signalings (Latest electronics operated signal devices)
	20 th	10. Maintenance of track: Necessity, maintenance of track,
5 th	21 st	inspection of soil,
	22 nd	Track and fixtures;
	23 rd	Revision/Quarries /Assignment-I
	24 th	Sessional Test -I
	25 th	maintenance and boxing of ballast maintenance gauges, tools
6 th	26 th	11. Earth work and drainage: Features of rail road, bed level,
	27 th	width of formation, side slopes,
	28 th	Drains: methods of construction,
	29 th	requirement of drainage system
	30 th	PART-II: BRIDGES 12. Introduction Bridge – its function and component parts, difference between a bridge

		and a culvert
7 th	31 st	13. Classification of Bridges Their structural elements and suitability: 13.1 According to life-permanent and temporary
	32 nd	13.2 According to deck level – Deck, through and semi-through
	33 rd	13.3 According to material –timber, masonry,
	34 th	steel, RCC, pre-stressed
	35 th	Revision/Quarries
8 th	36 th	13.4 According to structural form; - Grade separators-Railway Over-bridges (ROB), Railway under-bridge (RUB)
	37 th	- Beam type –RCC, T-Beam,
	38 th	steel girder bridges,
	39 th	plate girder and box girder,
	40 th	balanced cantilever,
9 th	41 st	Trussed bridges.
	42 nd	- Arch type – open spandrel and filled spandrel barrel and rib type
	43 rd	- Suspension type – unstiffened and stiffened and table (its description with sketches)
	44 th	Revision/Quarries
	45 th	- According to the position of highest flood level submersible and non-submersible
10 th	46 th	13.5 IRC classification
	47 th	14. Bridge Foundations: Introduction to open foundation,
	48 th	pile foundation,
	49 th	Well foundation
	50 th	15. Piers, Abutments and Wing-walls: 15.1 Piers-definition, parts; types –solid (masonry and RCC), open
11 th	51 st	Revision/Quarries/Assignment-II
	52 nd	Sessional Test -II
	53 rd	15.2 Abutments and wing walls – definition, types of abutments (straight and tee),
	54 th	abutment with wing walls (straight and splayed)
	55 th	abutment with wing walls (return and curved)
12 th	56 th	15.3 Launching of Equipment Bridges
	57 th	15.3 Launching of Equipment Bridges
	58 th	16. Bridge bearings Purpose of bearings;
	59 th	types of bearings – fixed plate,
	60 th	types of bearings –rocker and roller.
13 th	61 st	Revision/Quarries
	62 nd	17. Maintenance of Bridges 17.1 Inspection of Steel and Equipment bridges
	63 rd	17.2 Routine maintenance
	64 th	PART - III: TUNNELS 18. Definition and necessity of tunnels
	65 th	19. Typical section of tunnels for a national highway
14 th	66 th	Typical section of tunnels for single and double broad gauge railway track
	67 th	Practice of the typical cross-section of tunnels for highways and railway track

	68 th	20. Ventilation –necessity
	69 th	Methods of ventilation: Blowing and Exhaust
	70 th	combination of blowing and exhaust
15 th	71 st	21. Drainage method of draining water in tunnels
	72 nd	Drainage method of draining water in tunnels
	73 rd	22. Lighting of tunnels
	74 th	Revision/Quarries/Assignment-III
	75 th	Sessional Test -III

Lesson Plan

Name of the Faculty :		L	T	P
Discipline :	Civil Engineering	5	-	-
Semester :	6 th			
Subject :	QUANTITY SURVEYING AND VALUATION			
Lesson Plan Duration :	15 Weeks (from Jan-2018 to Apr-2018)			

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1 st	Introduction to the Subject and its necessity
	2 nd	1. Introduction to quantity surveying and its importance.
	3 rd	Duties of quantity surveyor
	4 th	2. Types of estimates 2.1 Preliminary estimates - Plinth area estimate
	5 th	- Cubic rate estimate, - Estimate per unit base
2 nd	6 th	2.2 Detailed estimates – Definition, - Stages of preparation, – details of measurement and calculation of quantities and abstract
	7 th	- Stages of preparation – details of measurement and calculation of quantities and abstract
	8 th	3. Measurement 3.1 Units of measurement for various items of work as per BIS:1200 3.2 Rules for measurements
	9 th	Revision/Quarries
	10 th	3.3 Different methods of taking out quantities – centre line method
3 rd	11 th	3.3 Different methods of taking out quantities – long wall and short wall method
	12 th	Practice of taking out quantities
	13 th	4. Preparation of Detailed and Abstract Estimates from Drawings for: 4.1 A small residential building with a flat roof and pitched roof building comprising of
	14 th	- Two rooms with W.C., bath, kitchen and verandah
	15 th	- Two rooms with W.C., bath, kitchen and verandah
4 th	16 th	Revision/Quarries
	17 th	- Two rooms with W.C., bath, kitchen and verandah
	18 th	- Two rooms with W.C., bath, kitchen and verandah
	19 th	4.2 Earthwork for unlined channel
	20 th	4.2 Earthwork for unlined channel
5 th	21 st	4.3 WBM road and pre-mix carpeting
	22 nd	4.3 WBM road and pre-mix carpeting
	23 rd	Revision/Quarries /Assignment-I
	24 th	Sessional Test -I
	25 th	4.4 Single span RCC slab culvert
6 th	26 th	4.4 Single span RCC slab culvert
	27 th	4.5 Earthwork for plain and hill roads
	28 th	4.5 Earthwork for plain and hill roads
	29 th	4.5 Earthwork for plain and hill roads

	30 th	4.6 RCC work in beams, slab, column and lintel, foundations
7 th	31 st	4.6 RCC work in beams, slab, column and lintel, foundations
	32 nd	4.6 RCC work in beams, slab, column and lintel, foundations
	33 rd	4.7 users septic tank - 10 users - 50 users
	34 th	4.7 users septic tank - 10 users - 50 users
	35 th	Revision/Quarries
8 th	36 th	4.7 users septic tank - 10 users - 50 users
	37 th	4.7 users septic tank - 10 users - 50 users
	38 th	4.7 users septic tank - 10 users - 50 users
	39 th	5. Calculation of quantities of materials for 5.1 Cement mortars of different proportion
	40 th	5.2 Cement concrete of different proportion
9 th	41 st	5.3 Brick/stone masonry in cement mortar
	42 nd	5.4 Plastering and pointing
	43 rd	5.5 White washing, painting
	44 th	5.6 R.C.C. work in slab, beams
	45 th	Revision/Quarries
10 th	46 th	6. Analysis of Rates 6.1 Steps involved in the analysis of rates. Requirement of material, labour, sundries, contractor's profit and overheads
	47 th	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
	48 th	- RCC in roof slab/beam/lintels/columns
	49 th	- Brick masonry in cement mortar
	50 th	- Cement Plaster - White washing, painting
11 th	51 st	- Stone masonry in cement mortar
	52 nd	6.3 Running and maintenance cost of construction equipment
	53 rd	Revision/Quarries/Assignment-II
	54 th	Sessional Test -II
	55 th	7 Contractor-ship - Meaning of contract - Qualities of a good contractor and their qualifications
12 th	56 th	- Essentials of a contract
	57 th	- Types of contracts, their advantages, dis-advantages and suitability, system of payment
	58 th	- 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
	59 th	- Classification and types of contracting firms/construction companies
	60 th	8 Preparation of Tender Document based on Common Schedule Rates (CSR) - Introduction to CSR and calculation of cost based on premium on CSR

13 th	61 st	- Exercises on writing detailed specifications of different types of building works from excavation to foundations, superstructure and finishing operation
	62 nd	Revision/Quarries
	63 rd	- Exercises on preparing tender documents for the following a) Earth work
	64 th	b) Construction of a small house as per given drawing
	65 th	c) RCC works d) Pointing, plastering and flooring
14 th	66 th	e) White-washing, distempering and painting f) Wood work including polishing g) Sanitary and water supply installations
	67 th	h) False ceiling, aluminum (glazed) partitioning i) Tile flooring including base course
	68 th	j) Construction of W.B.M/Concrete road
	69 th	9. Exercises on preparation of comparative statements for item rate contract
	70 th	10. Valuation a) Purpose of valuation, principles of valuation
15 th	71 st	b) Definition of various terms related to valuation like depreciation, sinking fund, salvage and scrap value, market value, fair rent, year's purchase etc.
	72 nd	c) Methods of valuation (i) replacement cost method
	73 rd	c) Methods of valuation (ii) rental return method
	74 th	Revision/Quarries/Assignment-III
	75 th	Sessional Test -III

Lesson Plan

Name of the Faculty : L T P
Discipline : Civil Engineering 5 - -
Semester : 6th
Subject : CONSTRUCTION MANAGEMENT AND ACCOUNTS
Lesson Plan Duration : 15 Weeks (from Jan-2018 to Apr-2018)

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1 st	Introduction to the Subject and its necessity
	2 nd	CONSTRUCTION MANAGEMENT: 1. Introduction: 1.1 Significance of construction management 1.2 Main objectives of construction management and overview of the subject
	3 rd	1.3 Functions of construction management, planning, organising, staffing, directing, controlling and coordinating, meaning of each of these with respect to construction job.
	4 th	1.4 Classification of construction into light, heavy and industrial construction 1.5 Stages in construction from conception to completion
	5 th	1.6 The construction team: owner, engineer, architect and contractors, their functions and inter-relationship
2 nd	6 th	2. Construction Planning: 2.1 Importance of construction planning
	7 th	2.2 Stages of construction planning - Pre-tender stage - Contract stage
	8 th	2.3 Scheduling construction works by bar charts - Definition of activity, identification of activities - Preparation of bar charts for simple construction work
	9 th	Revision/Quarries
	10 th	- Preparation of bar charts for simple construction work
3 rd	11 th	- Preparation of schedules for labour, materials, machinery and finances for small works - Limitations of bar charts
	12 th	- Practice of bar chart preparation
	13 th	2.4 Scheduling by network techniques - Introduction to network techniques; PERT and CPM,
	14 th	2.4 Scheduling by network techniques - Differences between PERT and CPM terminology
	15 th	Practice of CPM
4 th	16 th	Practice of PERT
	17 th	Revision/Quarries
	18 th	3. Organization: 3.1 Types of organizations: Line,
	19 th	line and staff,
	20 th	Functional and their characteristics
5 th	21 st	Practice of preparation of organizational chart of an organization.

	22 nd	4. Site Organization: 4.1 Principle of storing and stacking materials at site
	23 rd	4.2 Location of equipment
	24 th	4.3 Preparation of actual job layout for a building
	25 th	Practice of job lay-out
6 th	26 th	4.4 Organizing labour at site
	27 th	Revision/Quarries /Assignment-I
	28 th	Sessional Test -I
	29 th	5. Construction Labour: 5.1 Conditions of construction workers in India,
	30 th	Wages paid to workers
7 th	31 st	5.2 Important provisions of the following Acts: - Labour Welfare Fund Act 1936 (as amended)
	32 nd	- Payment of Wages Act 1936 (as amended)
	33 rd	- Minimum Wages Act 1948 (as amended)
	34 th	Revision/Quarries
	35 th	6. Control of Progress: 6.1 Methods of recording progress
8 th	36 th	6.2 Analysis of progress 6.3 Taking corrective actions keeping head office informed
	37 th	6.4 Cost time optimization for simple jobs - Direct and indirect cost,
	38 th	variation with time, cost optimization
	39 th	Practice of Cost Optimization
	40 th	7. Inspection and Quality Control: 7.1 Need for inspection and quality control
9 th	41 st	7.2 Principles of inspection
	42 nd	7.3 Stages of inspection and quality control for - Earth work
	43 rd	- Masonry
	44 th	- RCC
	45 th	- Sanitary and water supply services
10 th	46 th	Revision/Quarries
	47 th	8. Accidents and Safety in Construction: 8.1 Accidents – causes and remedies
	48 th	8.2 Safety measures for - Excavation work
	49 th	- Drilling and blasting
	50 th	- Hot bituminous works
11 th	51 st	- Scaffolding, ladders, form work - Demolitions
	52 nd	8.3 Safety campaign and safety devices
	53 rd	Revision/Quarries/Assignment-II
	54 th	Sessional Test -II
	55 th	ACCOUNTS 9. Public Work Accounts: Introduction, technical sanction, administrative approval, allotment of funds, re-appropriation of funds bi ll,
12 th	56 th	Contractor ledger, measurement book,
	57 th	Preparation of bill of quantities (BOQ),

	58 th	Practice: Preparation of bill of quantities (BOQ),
	59 th	Running and final account bills complete,
	60 th	Practice: MB/running bill/final bill
13 th	61 st	Completion certificate & report,
	62 nd	Revision/Quarries
	63 rd	Hand receipt, acquittance roll. Muster Roll labour,
	64 th	Casual labour roll-duties and responsibility of different cadres,
	65 th	Budget-stores, returns, account of stock, misc. P.W. advances,
14 th	66 th	T & P – verification, survey report
	67 th	Road metal material charged direct to works,
	68 th	Account - expenditure & revenue head, remittance and deposit head,
	69 th	Definition of cash, precaution in custody of cash book,
	70 th	Imprest account, temporary advance, treasury challan,
15 th	71 st	Preparation of final bills.
	72 nd	Preparation of accounts register, stock register.
	73 rd	Practice of preparation of: Bills/Accounts Register/Stock Register
	74 th	Revision/Quarries/Assignment-III
	75 th	Sessional Test -II

Lesson Plan

Name of the Faculty :		L	T	P
Discipline :	Civil Engineering	3	-	-
Semester :	6 th			
Subject :	REPAIR AND MAINTENANCE OF BUILDINGS			
Lesson Plan Duration :	15 Weeks (from Jan-2018 to Apr-2018)			

Week	Theory	
	Lecture Day	Topic (including assignment / test)
1 st	1 st	Introduction to the Subject and its necessity
	2 nd	1. Need for Maintenance 1.1 Importance and significance of repair and maintenance of buildings
	3 rd	1.2 Meaning of maintenance
2 nd	4 th	1.3 Objectives of maintenance
	5 th	1.4 Factors influencing the repair and maintenance
	6 th	2. Agencies Causing Deterioration (Sources, Causes, Effects) 2.1 Definition of deterioration/decay
3 rd	7 th	2.2 Factors causing deterioration, their classification 2.2.1 Human factors causing deterioration 2.2.2 Chemical factors causing deterioration
	8 th	2.2.3 Environmental conditions causing deterioration 2.2.4 Miscellaneous factors
	9 th	2.3 Effects of various agencies of deterioration on various building materials i.e. bricks, timber, concrete, paints, metals, plastics, stones
4 th	10 th	Revision/Quarries/Assignment-I
	11 th	3. Investigation and Diagnosis of Defects 3.1 Systematic approach/ procedure of investigation
	12 th	3.2 Sequence of detailed steps for diagnosis of building defects/problems
5 th	13 th	3.3 List non-destructive and others tests on structural elements and materials to evaluate the condition of the building and study of three most commonly used tests
	14 th	Sessional Test -I
	15 th	3.3 List non-destructive and others tests on structural elements and materials to evaluate the condition of the building and study of three most commonly used tests
6 th	16 th	4. Defects and their root causes 4.1 Define defects in buildings 4.2 Classification of defects
	17 th	4.3 Main causes of building defects in various building elements 4.3.1 Foundations, basements and DPC 4.3.2 Walls
	18 th	4.3.3 Column and Beams 4.3.4 Roof and Terraces 4.3.5 Joinery
7 th	19 th	4.3.6 Decorative and protective finishes

		4.3.7 Services 4.3.8 Defects caused by dampness
	20 th	Revision/Quarries/Assignment-II
	21 st	5. Materials for Repair, maintenance and protection 5.1 Compatibility aspects of repair materials 5.2 State application of following materials in repairs: 5.2.1 Anti corrosion coatings
8 th	22 nd	5.2.2 Adhesives/bonding aids 5.2.3 Repair mortars
	23 rd	5.2.4 Curing compounds 5.2.5 Joints sealants
	24 th	Sessional Test -II
9 th	25 th	5.2.6 Waterproofing systems for roofs 5.2.7 Protective coatings
	26 th	6. Remedial Measures for Building Defects 6.1 Preventive maintenance considerations 6.2 Surface preparation techniques for repair
	27 th	6.3 Crack repair methods 6.3.1 Epoxy injection 6.3.2 Grooving and sealing
10 th	28 th	6.3.3 Stitching 6.3.4 Adding reinforcement and grouting
	29 th	6.3.5 Flexible sealing by sealant
	30 th	6.4 Repair of surface defects of concrete 6.4.1 Bug holes 6.4.2 Form tie holes 6.4.3 Honey comb and larger voids
11 th	31 st	6.5 Repair of corrosion in RCC elements 6.5.1 Steps in repairing 6.5.2 Prevention of corrosion in reinforcement
	32 nd	6.6 Material placement techniques with sketches 6.6.1 Pneumatically applied (The gunite techniques)
	33 rd	6.6.2 Open top placement 6.6.3 Pouring from the top to repair bottom face
12 th	34 th	6.6.4 Birds mouth 6.6.5 Dry packing
	35 th	6.6.6 Form and pump 6.6.7 Preplaced – aggregate concrete 6.6.8 Trowel applied method
	36 th	6.7 Repair of DPC against Rising Dampness 6.7.1 Physical methods
13 th	37 th	6.7.2 Electrical methods 6.7.3 Chemical methods
	38 th	6.8 Repair of walls 6.8.1 Repair of mortar joints against leakage 6.8.2 Efflorescence removal
	39 th	6.9 Waterproofing of wet areas and roofs 6.9.1 Water proofing of wet areas 6.9.2 Water proofing of flat RCC roofs
14 th	40 th	6.9.3 Various water proofing systems and their characteristics

	41 st	6.10 Repair of joints in buildings 6.10.1 Types of sealing joints with different types of sealants
	42 nd	6.10.2 Techniques for repair of joints
15 th	43 rd	6.10.3 Repair of overhead and underground water tanks
	44 th	Revision/Quarries/Assignment-III
	45 th	Sessional Test -III

Lesson Plan

Name of the Faculty :		L	T	P
Discipline :	Civil Engineering	-	-	2
Semester :	6 th			
Subject :	EMPLOYABILITY SKILLS – II			
Lesson Plan Duration :	15 Weeks (from Jan-2018 to Apr-2018)			

Week	Practical	
	Practical Day	Topic
1 st	1 st	Introduction to the Subject and its necessity
2 nd	2 nd	Mock Interview concept and benefits, How to face interview
3 rd	3 rd	Holding Mock interview
4 th	4 th	Quarries/Practical Report Writing
5 th	5 th	Viva Voce-I
6 th	6 th	Preparing for meeting, agenda preparation
7 th	7 th	Holding meeting, preparing minute of meeting
8 th	8 th	Group discussion – concept, types of group discussion,
9 th	9 th	Preparation for group discussion,
10 th	10 th	Holding group discussion as Viva Voce-II
11 th	11 th	Presentation : Elements of good presentation Structure and tools of presentation,
12 th	12 th	Paper reading, Seminar preparation
13 th	13 th	Holding seminars
14 th	14 th	Quarries/Practical Report Writing
15 th	15 th	Power point presentation as Viva Voce-III

Lesson Plan

Name of the Faculty :		L	T	P
Discipline :	Civil Engineering	-	-	12
Semester :	6 th			
Subject :	MAJOR PROJECT WORK			
Lesson Plan Duration :	15 Weeks (from Jan-2018 to Apr-2018)			

Week	Practical	
	Practical Day	Topic
1 st	1 st	Introduction of the project work
	2 nd	List of some of the suggested projects -Construction of a Residential House -Rain Water Harvesting - Water Supply system for a one or two villages - Construction of toilets and baths for a shopping complex in a township - Design and construction of septic tank with soak pit for 100 users - Concrete Mix Design - Construction of concrete cubes by mixing appropriate quantity of fly ash with fibres
	3 rd	Necessity/Scope of the project work for the civil engineers
	4 th	Project Work: Estimation and Costing of Residential House (chosen from the list provided)
2 nd	1 st	Building elements/Quantity surveying
	2 nd	Heads of Civil projects works
	3 rd	Revision/Quarries
	4 th	Specification of various elements of building/civil works - Introduction
3 rd	1 st	- Earth Work
	2 nd	- Foundation work
	3 rd	- Brick masonry in Foundation
	4 th	- CC Work/Damp proofing Course
4 th	1 st	- RCC work
	2 nd	- Brick masonry in Superstructure
	3 rd	- Calculation of steel to be used as reinforcement in columns, beams and slabs etc.
	4 th	- Bar bending schedule
5 th	1 st	- Centering/shuttering and scaffolding
	2 nd	- Curing and its necessity
	3 rd	Revision/Quarries/Report Writing of Project work
	4 th	- Plastering/Flooring
6 th	1 st	- Finishing Work Wood work
	2 nd	- Painting/Distempering
	3 rd	- Doors/windows/ventilation
	4 th	- Different accessories used for doors/windows/ventilators fixation
7 th	1 st	- Testing of construction materials used
	2 nd	Revision/Quarries/Report Writing of Project work
	3 rd	Viva Voce - I
	4 th	Designing of the structure: Practice/Designing of the structural components
8 th	1 st	Practice/Designing of the structural components

	2 nd	Practice/Designing of the structural components
	3 rd	Practice/Designing of the structural components
	4 th	Practice/Designing of the structural components
9 th	1 st	Practice/Designing of the structural components
	2 nd	Practice/Designing of the structural components
	3 rd	Practice/Designing of the structural components
	4 th	Practice/Designing of the structural components
10 th	1 st	Practice/Designing of the structural components
	2 nd	Practice/Designing of the structural components
	3 rd	Revision/Quarries/Report Writing of Project work
	4 th	Estimation of the materials to be used for the construction of the structure
11 th	1 st	Estimation of the materials to be used for the construction of the structure
	2 nd	Estimation of the materials to be used for the construction of the structure
	3 rd	Estimation of the materials to be used for the construction of the structure
	4 th	Viva Voce-II
12 th	1 st	Revision/Quarries/Report Writing of Project work
	2 nd	Analysis of rates
	3 rd	Analysis of rates
	4 th	Introduction of Schedule of Rates (CSR-Common Schedule of Rates/ HSR-Haryana Schedule of Rates/DSR-Delhi Schedule of Rates)
13 th	1 st	Preparation of inventory on site
	2 nd	Site/Job-layout
	3 rd	Introduction to low cost materials/low cost housing
	4 th	Introduction to steel structure: welding/riveting
14 th	1 st	Preparation of BOQ
	2 nd	Preparation of BOQ
	3 rd	Revision/Quarries/Report Writing of Project work
	4 th	Preparation of abstracts of costs
15 th	1 st	Preparation of abstracts of costs
	2 nd	Revision/Quarries/Report Writing of Project work
	3 rd	Revision/Quarries/Report Writing of Project work
	4 th	Viva Voce-III