<table>
<tr><td>1</td><td>Name of Syllabus</td><td>C. C. IN Building Site Supervisor
(304203)</td></tr>
<tr><td>2</td><td>Max.Nos of Student</td><td>25 Students</td></tr>
<tr><td>3</td><td>Duration</td><td>1 year</td></tr>
<tr><td>4</td><td>Type</td><td>Full Time</td></tr>
<tr><td>5</td><td>Nos Of Days / Week</td><td>6 Days</td></tr>
<tr><td>6</td><td>Nos Of Hours /Days</td><td>7 hrs.</td></tr>
<tr><td>7</td><td>Space Required</td><td>1) Workshop = 300 sqfeet
2) Class Room = 200 sqfeet
TOTAL = 500 sqfeet</td></tr>
<tr><td>8</td><td>Entry Qualification</td><td>S.S.C. Pass</td></tr>
<tr><td>9</td><td>Objective Of Syllabus/ introduction</td><td>To check Quality of work
Construction work on site
To test building materials
To supervise the site</td></tr>
<tr><td>10</td><td>Employment Opportunity</td><td>This course has ample opportunities for employment such as Site Supervisor in Construction Co.</td></tr>
<tr><td>11</td><td>Teacher’s Qualification</td><td>Diploma in Civil / construction Engineering/ Technology with 2 years of field experience and 1 year of teaching.</td></tr>
<tr><td>12</td><td>Training System</td><td>Training System Per Week
<table>
<tr><td>Theory</td><td>Practical</td><td>Total</td></tr>
<tr><td>18 hrs</td><td>24 hrs</td><td>42 hrs</td></tr>
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</td></tr>
<tr><td>13</td><td>Exam. System</td><td>
<table>
<tr><th>Sr. No.</th><th>Paper Code</th><th>Name of Subject</th><th>TH/PR</th><th>Hours</th><th>Max. Marks</th><th>Mini. Marks</th></tr>
<tr><td>1</td><td>30420311</td><td>Material & Construction</td><td>TH-I</td><td>3 hrs.</td><td>100</td><td>35</td></tr>
<tr><td>2</td><td>30420312</td><td>Surveying</td><td>TH-II</td><td>3 hrs.</td><td>100</td><td>35</td></tr>
<tr><td>3</td><td>30420313</td><td>Quantity Surveying, Costing & Fundamentals of building drawing</td><td>TH-III</td><td>3 hrs.</td><td>100</td><td>35</td></tr>
<tr><td>4</td><td>30420321</td><td>Material & Construction</td><td>PR-I</td><td>3 hrs.</td><td>100</td><td>50</td></tr>
<tr><td>5</td><td>30420322</td><td>Surveying</td><td>PR-II</td><td>3 hrs.</td><td>100</td><td>50</td></tr>
<tr><td>6</td><td>30420323</td><td>Quantity Surveying & Costing</td><td>PR-III</td><td>3 hrs.</td><td>100</td><td>50</td></tr>
<tr><td></td><td></td><td>Total</td><td></td><td></td><td>600</td><td>255</td></tr>
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BUILDING SITE SUPERVISOR

CURRICULUM

THEORY I - PAPER – I
MATERIAL AND CONSTRUCTION

Sr. No	Topic	:	Sub – Topic
1.	Introduction	--	Necessity and importance of subject various construction materials such as brick, stone, cement, sand, R.C.C., etc.
2.	Soil exploration	--	Types of soil, method of exploration, nature of soil, characteristic of soil etc.
3.	Brick	--	Size of brick, quality of brick good brick, testing of brick and tech, terms day product.
4.	Stone	--	Types of rocks, dressing of stone, lifting of stone, qualities of good stone and tech, terms, testing.
5.	Cement and lime	--	Properties, ingredients, types and field test.
6.	Mortar and concrete.	--	Types of mortar and concrete, uses & applications, field test, quality of good mortar & concrete.
7.	Timber	--	Types, seasoning, defects, uses etc.
8.	Metal	--	Various ferrous and non-ferrous metals, corrosion preventing methods, uses and application.
9.	Paints & varnishes	--	Various types & their application.
10.	Graphical symbol	--	Graphical symbol for all material in construction.
11.	Water supply and sanitary appliances	--	Introduction, types, uses & applications, etc.
12.	Foundation	--	Layout, types of structure, types of foundation, shallow/deep foundation with suitability & applications etc.
13.	Brick masonary	--	Types of bond such as English bond. Flemish bond etc. for various thickness of wall.
14.	Stone masonary	--	Classification, points to be observed while doing stone masonry composite masonry checking of work.
15.	Damp prooting	--	Methods, Material, and steps involved in it, places of dampness, causes and remedies.
16.	Lintel, sills	--	Purpose, bearing, types and material, used.
17.	Doors and windows	--	Various types of doors and windows, method of fixing, technical terms, fixture & fastening.

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18.	Stairs	--	Types of stairs, layout technical terms, suitability, location, R.C.C., stairs in details.
19.	Roofs & Roof covering	--	Types of roofs, flat roof, sloping roof, lean to roof, King post, Queen post, various roof covering & method of fixing.
20.	Floor & floor finisher.	--	Classification Ground floor, upper floor, mezzanine floor, etc. Methods of coloring, application procedure of various floor finisher.
21.	Finishing works.	--	Plastering methods, painting works, paining methods, preparation of surface etc.
22.	Special aspects	--	Termite prooting fire fighting system, shoring and underpins.
23.	Maintenance & Repairs of building	--	Works, Replacement of floor finish, plaster, foundation etc. Maintenance activities.

PAPER – II – THEORY - II
SURVEYING

Sr.No	Topic	:	Sub – Topic
1.	Introduction	--	Definition, principles, types, various scales, R.F. etc.
2.	Linear measurement	--	Study of chain and tape ranging rod, peg, methods of Ranging chaining of slope.
3.	Chain & cross staff surveying	--	Chain triangulation conventional symbols, obstades in chaining (No. examples) Study of instruments such as opener us staff, optical square etc., chain & cross survey.
4.	Chain & compass traversing	--	Open and close traversing, prismatic compass, Bearing of lines, traversing methods.
5.	Leveling	--	Definition, tech, terms, types of levels, squares of error.
6.	Plane table surveying	--	Principles, setting of plane table suitability, use of telescopic alidate.
7.	Theodolite	--	Component parts, Technical terms, Temporary adjustment, measurement of horizontal and vertical angles, traversing with theodolite etc,

PAPER – III – THEORY - III
QUANTITY SURVEYING & COSTING AND FUNDAMENTAL OF BUILDING DRAWING.

Sr. No. :	Topic	:	Sub – Topic
1.	Introduction	:	Estimating, Definition, purpose, types.
2.	Units	:	Units & standard modes of measurement, contingency, W.C. Establishment, quality control.
3.	Taking out quantities	:	General principles, Abstracting bills of quantities, prime cost, provision for electrification, water supply & drainage.
4.	Analysis of rate	:	Factors affecting cost of work material, labour, plant, transportation etc. capacities of equipment, analysis of rates, schedule of rate etc.
5.	Valuation	:	Definition, importance and purpose different values capital book, market depreciation, P.W.D. practice, factors affecting valuation.
6.	Methods of executing work	:	P.W.D. procedure classification of work, various depts., rate list piece work, day work etc.
7.	Tender documents & contracts	:	Procedure of invitation of tender, submission of tender, scruiting, issue of work order etc. various types of contract, earnest money, security deposit, conditions of contract, liquidated damages etc.
8.	Payments to contractory Supplies.	:	Interim payment of bills, forms, running and final payments.

PRACTICAL – I – MATERIAL AND CONSTRUCTION

1. Out foundation for (setting) load bearing and frame structure.
2. Checking horizontality and verticality of work.
3. Observing methods of plastering, pointing etc.
4. Fixing of doors & windows.
5. Testing of concrete cubes observing.
6. Method of flooring.
7. Graphical representation of construction material.
8. Fully parraled door and carament window.
9. Fixtures and fastenings for door.
10. Layout of stairs (PLAN).
11. Layout of house water supply system.
12. Layout of house drainage system.
13. Study of a given electrical layout of residential building.

1) Visit to Quarry to observe quarrying operations 2) Conduct Compressive strength Test on stone 3) Conduct Abrasion Test of Metal
1. Field Tests of Brick 2. Conduct Compressive Test on Brick 3. Conduct Water absorption on Brick
1. Field Tests of Cement 2. Determining initial & final setting time of Cement 3. Determining fineness Modulus of Cement 4. Determination of Compressive strength of cement
1. Sieve Analysis of Sand for finding fineness modulus 2. Finding Silt content in Sand
1. Preparation of Cement Mortar 1:6
1) Conduct Compressive Test on Concrete (cube Test) 2) Conduct Test for Workability (slump test) 3) Conduct Compaction factor Test 4) Introduction to Non Destructive Tests on Concrete
1) Conduct Tensile Test on mild steel bar / HYSD Bars
1) Conduct Bending Test of tiles 2) Conduct Abbreviation test of tile
Report on Visit to a Timber Factory
i) Visit to site for observing Bar bending, laying of Reinforcement bars ii) Observe method of providing cover, placing concrete in RCC Members iii) Draw Figures – RCC Bars reinforcement in column Footing, column, beam, slab, lintel, Chajja, Loft iv) Exercise on preparing standard Bar bending Schedule v) Perform bar bending and binding by using G.I. wire for forming Hook, EL, Bend, Lap, stirrups of 6 mm bar for column and beam
1) Line out for 3 to 4 Room Load Bearing Building 2) Line out for Framed structure
Visit to Site to study different methods of Excavation
1) Visit to site showing ingredients and process of mixing, transportation, laying, compacting and curing of concrete
1) Construction of UCR stone masonry in foundation work, UCR stone masonry for compound wall (ht 1.2 m to 1.5 m)
1) Construction of Burnt Brick Masonry in superstructures in English Bond / Flemish Bond 2) Construction of concrete block masonry in superstructure
1) Erecting Single Scaffolding up to G + 1 floor 2) Erecting Double Scaffolding up to G + 1 floor

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1) Study of Laying Lintels and Sills on Construction Site
i) Visit to site for observing Bar bending, laying of Reinforcement bars ii) Observe method of providing cover, placing concrete in RCC Members iii) Draw Figures – RCC Bars reinforcement in column Footing, column, beam, slab, lintel, Chajja, Loft iv) Exercise on preparing standard Bar bending Schedule v) Perform bar bending and binding by using G.I. wire for forming Hook, EL, Bend, Lap, stirrups of 6 mm bar for column and beam
1) Draw Sketches of form work for column, Beams, Slab, Lintel and Chajja 2) Visit to site to study Centering and form work for abovementioned members and table formwork, Mivon formwork etc.
1) Visit to site for observing procedure for different type of plaster work 2) Hands on experience of applying plaster of size 3m x 3 m on internal & external wall surface
1) Hands on experience of Painting of surface with a) White wash 3m x 3m surface area b) Dry Distemper 3m x 3m surface area c) Oil Bound Distemper 3m x 3m surface area d) Cement Paint 3m x 3m surface area e) Oil Paint on new Steel work and old wood work

PAPER – II - SURVEYING
PRACTICAL - II

Sr. No. :	Topic
1.	Chain and cross staff survey for finding out area of a given field.
2.	Chain and compass traverse survey, A simple close traverse of 5-6 sides enclosing & building, calculation of included angle, locating details on A1 size sheet.
3.	Study and use of dumpy level along with recording reading in level book.
4.	Plane table survey – for minimum 5 sided traverses enclosing building, using method of radiation and intersection.
5.	Measurement of vertical angle by theodolite.
6.	Calculation of R. Levels by both methods. (A) H I Method (B) Rise & fall Method.

Construct different types of Scales, Use of Paper Scales,
1) Study of chain and its parts for 20m and 30m chain, arrows, pegs, Ranging Rod. 2) Fixing of station and measuring length of line joining them and entering in field book. Ranging a line using Ranging Rod. 3) Use of Line Ranger. 4) Chaining on sloping ground by Method of stepping.
1) Study of Cross-Staff and Optical Square. 2) Setting of a line; Taking offsets from objects, Recording in field book 3) Location sketch of a station 4) Measurement of area of a field or plot using Chain and Cross Staff
1) Study and use of Prismatic Compass 2) Setting up of compass on a station and observing bearings and finding included angles between lines 3) Measuring of Fore Bearing and Back Bearings of polygon 4 to 5 sides. Identifying stations affected by Local Attraction Calculating Included Angle, Correcting Included Angles, Correcting Bearings
4) Carry out a closed Traverse Survey of 4 to 5 sides enclosing a building. Making Entry of collected Data in Field Book. Calculating Included Angles Correcting for local attraction. Plotting the surveyed area eliminating closing errors. Plotting internal details of plot from survey data
1) Study of Dumpy level. Parts of Dumpy level, Temporary Adjustment of level, Axis of Dumpy level. 2) Study of Leveling staves 3) Taking reading with Dumpy level on Leveling Staff 4) Simple Leveling Taking Reading, recording in Field Book Calculating of Reduced Level. 5) Differential Leveling Taking Reading recording in Field Book Calculating of Reduced Level. 6) Fly Leveling single check and Double check, Taking Reading, recording in Field Book, Calculating of Reduced Level. 7) Study of Tilting Level observing Readings on staff 8) Study of auto Level, observing Readings on staff
1) Block Contouring for a block 200m X 200m on undulated ground by observing spot Levels at 10m X 10m. Draw a sheet showing contours at Contour interval 1.0m or 0.5m.
7.1) Study of Polar Planimeter 7.2) Use of Planimeter to find area from drawings, Study of formula Anchor positions and relationship between constants 7.3) Study of Digital Planimeter, finding Area from given drawing using Digital Planimeter
1) Using Accessories carrying out temporary adjustments of Plane table 2) Locating details with plane table by method of intersection and orientation by Back sighting 3) Using plane table with telescopic Alidade for survey of small area.
1) Understanding the components of Theodolite and their functions, reading the vernier and temporary adjustments of Theodolite. 2) Measurement of Horizontal angle by using transit Theodolite. By method of Repetition with face left and face right Measurement of vertical angles by Theodolite. Measurement of Magnetic bearing of a line using Theodolite. Measurement of deflection angle by taking open traverse of 4 –5 sides. Extending a straight Line using Theodolite in Horizontal and Vertical plane

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1) To find Reduced levels and horizontal distances using Theodolite as a Tacheometer. 2) To find constants of a given Tacheometer.
1) Operating Digital Theodolite 2) Operating Total Station

PAPER – III – QUANTITY SURVEYING AND COSTING
PRACTICAL - III

Sr. No. :	Topic
1.	Study of a drawing sheet consisting of plan of residential framed structure stating plan, elevation section, schedule for doors & window, Area statement, North direction foundation plan etc.
2.	Detailed estimate for the building in sheet (Sr. No.1) with cost analysis.
3.	Detailed estimate of renovation of small building for replacing old flooring replastering and painting. Replacing door panel, by actually taking the measurement of small unit such as canteen, mess, hostel room etc.
4.	Find out all materials of all items of construction for above work (Sr. No. 4).

1. Reading of Building Drawing for measurement 2. Filling of Measurement Sheet
1. Preparing approximate estimate of a building using approximate method.
1. Preparation of Detail Estimate of a Residential Building (Load Bearing Structure) 2. Details estimate of septic Tank 3. Details estimate of sump well
1) Calculating Quantity of concrete & Steel for 2 to 3 room RCC Building or Hall.
1. Collecting Market Rates and DSR rates for minimum 20 building materials and 10 categories of labors 2. Preparation of Rate analysis for at least 5 items of Building work.
Preparation of Specification for 5 items.
Prepare set of full tender documents for Estimate prepared 1. Tender Notice 2. Tender Form 3. General Directions to Contractor 4. Schedule A 5. Schedule B 6. Schedule C 7. General terms and conditions of contract 8. Special conditions of contract **9.** Specifications
1. Study of contract conditions

LIST OF TOOLS AND EQUIPMENTS

Sr. No.	Description of tool / equipment	:	No. required	:	Remark
1.	Tapes	-	6		
2.	Chains	-	3		
3.	Optical square	-	3		
4.	Prismatic compass	-	3		
5.	Theodolite	-	3		
6.	Plane table traverse	-	3 sets		
7.	Models of railway bridge, staircase roof & Building.	-	One each.		
8.	Ranging rods, leveling staff	-	25		
9.	Dumpy level	-	3		
10.	Arrows pege, flags.	-			

LIST OF TOOLS AND EQUIPMENTS

Sr. No.	Description of tool / equipment	:	No. required	:	Remark
1.	Tapes	-	6		
2.	Chains	-	3		
3.	Optical square	-	3		
4.	Prismatic compass	-	3		
5.	Theodolite	-	3		
6.	Plane table traverse	-	3 sets		
7.	Models of railway bridge, staircase roof & Building.	-	One each.		
8.	Ranging rods, leveling staff	-	25		
9.	Dumpy level	-	3		
10.	Arrows pege, flags.	-			

REFERENCE BOOKS

1. Building construction - S.C. Rangwala.
2. Surveying & leveling - Kanetkar & Kulkarni
3. Estimating & costing - B. N. Datts.
4. Materials in construction - Aggrawal & Arora.

5.	Construction	-	Shushilkumar.
6.	Building construction	-	B.C. Punmia.
7.	Building construction	-	S.C. Rangwall.
8.	Building construction	-	Pathak & Jamkhandi.
9.	A Text book of surveying	-	Kauitkar & Kulkarni.
10.	A Surveying & leveling	-	V.S. Gagare.
11.	A Surveying & leveling	-	B.C. Punmia.
12.	Quantity surveying & costing	-	Chakraborty
13.	Quantity surveying & costing	-	Dutta.
14.	Quantity surveying & costing	-	J. R. Muley.

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