AMIN SURVEY [AMSV]

General Information :

1.	Name of the Trade	:	Amin Survey
2.	Entry Qualification	:	Passed Class VIII
3.	Duration of Training	:	06 Months [Under Vocational Short Term Course]

Objective of The Course :

The Objective of the course is to impart necessary competencies focusing on technical skill and knowledge so that they become employable in the Civil firm in Govt. and Private Sector.

Since the infrastructure development work is increasing rapidly in the state, the job potentiality of the Surveyor is increasing day by day. Therefore, it is very important that the training of Amin Survey is now becoming necessary for self employment purpose.

At the end of the training the trainees will be able to :

- Layout of the infrastructure components of civil work.
- Make measurement and evaluate their work independently.
- Work as a recognised Surveyor (Amin) with Land, plot in rural & urban area
- Simple estimation of Building materials.

Course Break-up ;

(a)	Practical instruction	:	288 hrs.
(b)	Theoretical instruction	:	67 hrs.
(c)	Entrepreneurial	:	05 h rs.
			Total = 360 Hours

Marks Alloted :

(a) Practical	:	400
(b) Theory	:	100

The Course content is to be covered in less then 26 weeks since some weeks will be used for enrolment procedures, leave of the instructor, holidays, examination and tests, industrial visits etc.

Industrial Visit :

Industrial visit for becoming well acquainted with the modern construction technique.

THEORY : **67 hrs.**

1. Introduction:

1.1 Definition and objective of Surveying. Introduction of various units used for measuring length, area, volume in C.G.S, F.P.S AND M.K.S. methods and their internal Conversion.

2. Chain Surveying:

2.1 Principles of chain Surveying.

2.2 Instruments used in chain surveying with their brief description and sketch.

2.3 Definition of

(a) Base line
(b) Tie line
(c) Off sets
(d) Reconnaissance
(e) Well Conditioned Triangles

2.4 Upkeep of a field book.

2.5 Overcoming obstacle, ranging a line.

2.6 Errors in chain Survey (no deduction): Simple numerical problems.

2.7 Methods used (only brief idea for practical work).

3. Compass Surveying:

3.1 Introduction.

3.2 Brief description of prismatic compass, Surveyor's compass, bearing of lines, magnetic and true bearing, dip, local attraction.

3.3 Measurement of internal angle of two lines stations.

3.4 Methods of plotting compass survey traverse. Adjustments of closing error. Recording of Field Book.

3.5 Simple Numerical problerns on errors in chain Surveying.

4. Levelling :

4.1 Brief description of various levelling instruments with its components.

4.2 Methods used in levelling. Simple numerical problems.

4:3 Reciprocal levelling. Simple numerical problems.

4.4 Levelling difficulties.

4.5 Use of Levelling Instrument for site levelling, Road Cross Section and upkeep of a field book :

5. Plane Table Survey :

5.1 Introduction, Brief description of Instruments used in Plane Table Survey,

5.2 Methods used in Plane Table Survey (only description for practical class). Advantages & Disadvantages.

5.3 Brief description of Centering, Levelling, Orientation operation used in Plane Table Survey.

6. Theodolite Survey :

6.1 Description of Instrument, Principles of measuring horizontal angles and vertical angles.

6.2 Temporary Adjustments of Theodolite

6.3 Traverse Survey with the Theodolite work

6.4 Sources of error in Theodolite work.

6.5 Checks in Traversing

7. Reading of Building Drawing :

7.1 Plan, Elevation and Section of a small building.

7.2 Simple idea of R.C.C. Structural detail like Beam, Slab, Column, Footing.

7.3 Introductian to brief idea for material calculation.

7.4 Layout of a Plan with area calculation by Simpson's 1/3 Rule & Trapizoidal method

PRACTICAL : **288 hrs.**

1. Chain Survey :

1.1 Practice in unfolding and folding chain alignment of lines-measurement of distance between given points and their booking.

1.2 Practice in chaining and taking offset, use of optical Square and Cross staff setting out right angles looking of measurements testing of chain, tape, optical square and Cross Staff. .

1.3 Procedure in conducting Chain Survey reconnaissance preparation of rough sketch. Selection of base lines and Station points fixing of stations etc.

1.4 Chain Survey of small plots bytriangulation, looking and ptotting the same.

1.5 Chain Survey of built-up plots, locating details, booking and plotting the same.

1.6 Taking horizontal measurements on sloping ground overcoming obstacles between two points one of which is invisible or inaccessible from the other.

1.7 Chain Survey of an extensive area, locating detail plotting and tinishing the same in ink or colour.

2. Compass Survey: **(3 weeks)**

2.1 Practice in setting up a compass and checking its accuracy-taking bearings and calculating angles (conversion from W.C.B. to R.B.).

2.2 Determining the bearings of a given lines and estabiishing lines of given bearings - laying out a rectilinear and polygonal plots of ground using a compass and a tape.

2.3 Conducting closed traverse of built up field, and plotting the same finishing in ink or colour.

3. Plane Table Survey :

3.1 Setting up of plane table levelling centering, and orientation.

3.2 Surveying an area with plane table of built up areas.

3.3 Traversing with Plane table of built up areas.

3.4 Running and open traverse with plane table and fixing details. Inking, finishing, colouring etc.

4. Levelling : (4 Weeks)

4.1 Practice in setting out a level and performing temporary adjustments practice in reading staff.

4.2 Demonstration of permanent adjustment of level.

4.3 Practice in differential levelling including reciprocal levelling and establishing bench marks, reading of inverted staff practice in booking readings.

4.4 Carry out route Survey longitudinal & cross section of a road project its plotting and calcuiation of earth work..

4.5 Road project reconnaissance, preliminary and final lacation Survey including preparation of route map to scale, taking profile and section with level plotting; marking formation levels. Calculation of earth work and other material for laying road includes estimation of earth work.

5. Theodolite Survey: (5 Weeks)

5.1 Practice in setting up a theodolite and taking readings.

5.2 Measurement of horizontal angles by repetition, reiteration methods. Entry of Field book.

5.3 Practice in measuring vertical angles, setting out given vertical angles and entering in the field book.

5.4 Running a closed traverse over a given area, booking calculating the co-ordinates and plotting the traverse.

5.5 Setting out compound Curves, transition Curves with theodolite.

6. Lay-out of Building from the Plan mentioning size of the rooms, etc.

7. Engineering Drawing:

7.1 Drawing different types of lines, lettering etc.

7.2 Construction of Plain, Comparative diagonal and vernier Scale

7.3 Drawing of Conventional signs used in engineering Survey, Cadastral Survey, Building drawing practice.

Note : As this subject is Practical oriended, it is therefore, important to run through the theory and practice simultaneously. Some chapters of Practical are also to be carried out simultaneously for completing the syllabus. Emphasis to be given on work topic rather than simple terms of explanation which can be done during practical work.

ENTREPRENEURIAL INSTRUCTION

SL No.	Course Curriculum	Hours
1.	Brief idea on nature of small business management and Industrial Technical skill.	
2.	Preparation of schemes and vetting to Financial Institutions/ Lead Bank for obtaining loans.	
3.	Rules for setting up of business / production Unit.	
4.	Maintenance of Accounts; Labour Capital etc.	
5.	Man Management, Communication, Motivation.	
6.	Operational Management.	
7.	Market Survey.	
8.	Quality Control.	
9.	Visit to Industrial units for gathering idea to start the unit.	
10.	Choice of technology as per demand of local people of the District / State.	
11.	Knowledge of Sales Tax etc.	
12.	Brief idea for Registration of SSI, Trade License, Project Report, Proposal for loans etc.	
		Total 05