

**B. Voc. in Surveying
Part : (A) Chain Survey**

SEMESTER First

S. No.	Reference Learning Outcome	Professional Skills (Subject Practical)	Professional Knowledge (Subject Theory)
(A)1	<p>Recognize & comply safe working practices, environment regulation. Concept of drawing & sheet layout.</p> <p>Theory: 10 Hours Practical: 35Hours</p>	<ol style="list-style-type: none"> 1. Demonstrate of tools & equipment used in the subject. 2. Occupational safety & Health. 3. Introduction of safety equipments and their uses. 4. Introduction of first aid, health, safety & environmental guidelines, legislations & regulations as applicable. 5. Personal Protective Equipment (PPE). 6. Hazard identification and avoidance, Safety signs for Danger. 7. Use of drawing instruments and equipments with care. 8. Method of fixing of drawing sheet on drawing board. 9. Layout of different size of drawing sheet and folding of sheets. 	<p>Importance of safety and general precautions related to the subject.</p> <p>All necessary guidance to be provided to the new comers to become familiar with the working of ITI system.</p> <p>Importance of survey or subject</p> <p>Job after completion of training.</p> <p>Introduction of First aid.</p> <p>Job responsibility of the subject.</p> <ul style="list-style-type: none"> - Overview the subject to be taught. - List of the instrument equipments to be used during training - Layout of drawing sheet - Dimensions of drawing sheet.
(A)2	<p>Draw lettering & numbering & dimensioning applying drawing instruments.</p> <p>Theory: 20 Hours Practical : 50 Hours</p>	<ol style="list-style-type: none"> 10. Lettering & numbering (Single & double stroke) 11. Types of lines and dimensioning. 	<p>Details layout of lettering, lines & dimensioning system.</p>

(A)3	Perform site survey using chain/ tape & prepare a site plan Theory: 14 Hours Practical: 41 Hours	20. Practice of folding & unfolding of chain. 21. Equipment and instrument used to perform surveying & testing of chain. 22. Ranging (direct/ indirect) & distance measure with chain/ tape. 23. Offset taking & entering field book. 24. Overcoming obstacles in chaining. 25. Chaining on sloping ground. 26. Conduct a chain survey of a small area with all details and plotting the map. 27. Calculating the area of site. 28. Prepare a site plan by the help of chain / tape.	Uses of Chain/ tape, testing of a chain & correction. Ranging (direct & indirect), Principle of chain survey, application. Terms used in chain survey, Offset, types of offsets, limit of offset, field book, types of field book, entry of field book method of chaining in sloping ground. Field procedure of chain survey errors in chain survey, plotting procedure. Calculation of area (regular & irregular figure) Knowledge of site plan.
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Part : (B) Compass Survey

(B)1	Perform the site survey using prismatic compass Theory: 14 Hours Practical: 41 Hours	29. Temporary adjustment of prismatic compass. 30. Measure fore & back bearing of a line. 31. Measure true bearing of a line. 32. Prepare a closed & open traverse using prismatic compass measure the bearings, entry into field book, calculation of correct bearing and adjust. (Local attraction), determine the closing error and adjust. Plotting the same.	Basic terms used in compass survey. Instrument & its setting up. Conversion of bearing web to R.B. Calculation of included angle from bearing local attraction, magnetic declination and true bearing, closing error. Adjustment of closing error, precaution in using prismatic compass.
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Part : (C) Geometrical Constructions

(C)1	Draw plain geometrical figures, curves & conics Theory: 14 Hours Practical: 20 Hours	12. Construction of plain geometrical figures, curves & conics.	Introduction of surveying, types of surveying, use, application principal.
(C)2	Construct plain scale, diagonal scale, comparative scale, vernier scale. Theory: 14 Hours	13. Drawing of : - 14. Construction of scales – plain, diagonal, vernier.	Knowledge of different types of scales, determine of R.F & uses of scales
(C)3	Draw conventional signs & symbols used in surveying Theory: 21 Hours Practical: 62 Hours	18. Drawing of conventional signs & symbols 19. Free hand sketch of liner measurement instruments	Use & application of conventional signs & symbols