

Bhumi Sahayak / Amin / Surveying : SEC-1			
Course Code:	Course Title: Bhumi Sahayak / Amin / Surveying (Practical)		
Credits: 02+01	No of Lectures= 30 Hours+10 Hours	CBPBU	
Full Marks: 50 (Evaluated by External Expert+ Lab Note book + Project+ Attendance)			
Total No. of Lectures-Tutorials-Project (in hours per week): 2-0-1			
Course Objectives:			
<ol style="list-style-type: none"> 1. To introduce the fundamental concept of Aminship and Job opportunities 2. To know the basic concept of surveying 3. To learn about the land Classification and Area Measurement 4. To make an understanding about land survey (Hands-on-training) . 			
Unit	Topic (Value in parenthesis indicates Marks)		No. of Lectures
Unit I Introduction of Aminship / Surveying	1.1. Introductory Note for Aminship, Responsibility of Amin, Job Opportunity of Amin, 1.2. Introduction to Mouza Map, Concept of Scale-R. F, Statement, plane and diagonal scale; Symbols used in Amin survey. 1.3. Familiarization of Unit of measurement; Measurement of distance: Pacing, odometer, chaining (Metric Chain, Gun Chain, Revenue Chain, Engineer's Chain), Tape, Electronic Distance Measurement (EDM) (10 Marks)		10
Unit II Basic Surveying	2.1. Definition and Types of Surveying, Definition and Objectives of Cadastral Survey, Terms related to Cadastral Survey- Quadrilateral, Shikmi line, Partial Line, Goda, Chanda, Dhai, Khaka, Thoka line, Trijunction Pillar, Alamat Khatian, Khanapuri, Bhujarat, J.L Number, RS Map, C.S Map, L.R Map, Parcha; 2.2. Definition of Traverse, classification, and methods of measuring traverse. 2.3. Principles of Chain and Compass surveying, Concept of Bearing, WCB, RB and conversion, Plotting of Traverse by Prismatic Compass and Chain, Error correction of Prismatic compass and Determination of Chaining, and their corrections (10 Marks)		10
Unit III Land Classification and Area Measurement	3.1. Basic concept of Land classification of Land and Land Revenue System and instrument used as Amin Survey. 3.2. Draft a plan about Batwara /Zamin/ House; Drawing of conventional signs & symbols used in maps of ground or surface 3.3. Calculating area of a plot (By Chain and Prismatic Compass, Drawing of Sketch Map. (10 Marks)		10
Unit IV Project	Visit to local area and study conduct survey any plot, draw sketch map and preparation of a project report. Not more than 10 pages (This is an Internal Part) (10 Marks)		10

Suggested Reading:

1. Pal Subir, Kumar, (2018): Guide to Land Survey Procedure (In Bengali), Kamal Law House, India
2. Gangopadhyay, Arun (2018): Amin Survey || NSQF Level - 3, Sector - Construction (Paperback, Bengali)
3. Basak, N N (2017). Surveying & Levelling 2/E, McGraw Hill Education, Noida, Uttar Pradesh

Bhumi Sahayak / Amin / Surveying : SEC-2			
Course Code:		Course Title: Bhumi Sahayak / Amin / Surveying (Practical)	
Credits: 02+01		No of Lectures= 30 Hours+10 Hours	CBPBU
Full Marks: 50 (Evaluated by External Expert+ Lab Note book + Project+ Attendance)			
Total No. of Lectures-Tutorials-Project (in hours per week): 2-0-1			
Unit	Topic (Value in parenthesis indicates Marks)		No. of Lectures
Unit I Measurement of Area	1.1. General principles of measurement of an area of regular and irregular boundary, Using instruments (Acre Comb, Planimeter, Digital Planimeter etc.) 1.2. Mathematical calculation (division into squares, the mid-ordinate rule, the average ordinate rule, the trapezoidal rule and Simpson's rule.) (10 Marks)		10
Unit II Dumpy/Auto Level Survey	Levelling by Dumpy Level/ Auto Level 2.1. Terms related to levelling. Types of benchmarks, The basic components of dumpy level, Types and description of levelling staff, Temporary adjustment of dumpy level. 2.2. Methods of levelling: simple levelling; differential levelling or fly levelling; profile levelling, cross section levelling; reciprocal levelling. 2.3. Methods of calculation of reduced level. 2.4. Conduct a Longitudinal and cross-section levelling with the necessary entry in the level book, calculate and plotting with R.L. (10 Marks)		10
Unit III Plane Table Survey	Plane table Survey 3.1. Objective 3.2. Accessories used for plate table survey and their uses. 3.3. Temporary adjustment (setting) of the plane table over a station. 3.4. Methods of plane table survey-radiation, intersection, traversing, resection method. 3.5. Conduct plane table survey of any plot of land with few details such as pond, tree etc. by radiation, intersection, traversing method (10 Marks)		10
Unit IV Project	Case Study: Students must conduct a survey of any plot, draw a sketch map and write a report. (This is an Internal Part) (10 Marks)		10

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1. Pal Subir, Kumar, (2018): Guide to Land Survey Procedure (In Bengali), Kamal Law House, India
2. Gangopadhyay, Arun (2018): Amin Survey || NSQF Level - 3, Sector - Construction (Paperback, Bengali)
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