

DEPARTMENT OF SOIL AND WATER CONSERVATION, PUNJAB**SYLLABUS OF SKILL TEST FOR POST OF SURVEYORS**

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| 1 | BASICS OF SURVEYING i.e. Measurements and their units, Instruments used for taking measurements, Principles of Surveying, Classifications of Surveys Precision in surveying etc |
| 2 | LINEAR MEASUREMENTS i.e Chain, Arrows, Tapes, Ranging Rods, Offset Rod, Pegs, Ranging a Line, Chaining a line, Errors in Chaining |
| 3 | CHAIN SURVEYING i.e. Chain Surveying operations, Offsetting, Conventional Signs or Symbols, Problems in Ranging and Chaining, Construction of Scales |
| 4 | COMPUTATION OF AREAS i.e Graphical Method, Instrumental Method (Planimeter), Areas by the Direct use of the Field-notes |
| 5 | COMPASS SURVEY i.e Compass, Fore and Back Bearings, Calculation of Angles from Bearings, Magnetic Declination, Permissible Errors in Compass Surveying, Source of Error in Compass Work etc |
| 6 | PLANE TABLE SURVEY i.e Advantages and disadvantages, Setting up the Plane table, Methods of Plane Table Surveying, Two & Three Point Problem, Testing and adjusting the plain table and alidate etc |
| 7 | LEVELLING i. e The Level and its different types, The Levelling Staff, Terms Used in Levelling, Adjustments of the level, Instruments for a staff and level man, Difference of Level of the two points, Level Book, Permissible limits of errors, Curvature and Refraction, Sensitiveness of a level tube, Classification of leveling, Principle of Reversal, Permanent Adjustments of - Dumpy Level, Cookes Reversal Level, Cushings Level, Y-Level, Tilting Level etc |
| 8 | CONTOURING i.e. Contour and Contouring, Contour Interval and Horizontal, Characteristics of Contours, Methods and Interpolation of Contouring, Drawing the Contour lines, Finding Volume from contour Lines , Contour maps etc |
| 9 | THEODOLITE SURVEY i.e Theodolite, Fundamental Lines and Manipulating Transit Vernier Theodolite, Adjustments of a Theodolite, Verneir Scale, Horizontal and Vertical Angels, Levelling and Finding height with Theodolite, Methods of Traverse, Errors in Theodolite Work |
| 10 | TECHEOMETRIC SURVEY i.e Tacheometry, Instruments used in Techeometry, Staadia System, Theory of Anallatic Lons, Tangential System and errors, Degree of Accuracy |
| 11 | CURVES i.e. Classification of Circular Curves, Parts and Designation of Curves, Methods of Curve ranging, Setting out curves, Compound and Transition Curves, Vertical Curves |
| 12 | EARTH WORK i.e. Measurement and Formulae of Volume calculation, Mass Diagram, Lift and lead examples, Measurements of Volumes from Spot Levels and Contours |
| 13 | MINOR INSTRUMENTS i.e. Hand Level, Abney's Level, Clinometer, Photograph Method, Pantagraph, Plantmeter, Box-Sextant etc |

SAMPLE QUESTIONS WITH ANSWERS

The Skill test shall comprise following three type of questions:-

1. Fill in the Blanks

- i) Chain survey is done by _____ method.
- ii) The compass is made of _____ .

2. MULTIPLE CHOICE QUESTIONS (Tick the correct option)

- i) A level cannot be used for
 - (a) Profile levelling
 - (b) Vertical Angles
 - (c) Horizontal angle
 - (d) Contouring
- ii) If the R.L. of a B.M. is 100.00 m, the back- sight is 1.215 m and the foresight is 1.870 m, the R.L. of the forward station is
 - (a) 99.345 m
 - (b) 100.345 m
 - (c) 100.655m
 - (d) 101.870m

3. TRUE/FALSE (Tick)

- i) In chain surveying field work is limited to linear measurements only – True/False
- ii) Size of a theodolite is specified by the diameter of vertical circle – True/False

ANSWERS

- 1. i) : triangulation , ii) : Aluminum
- 2. i): (b), ii) : (a)
- 3. i): True, ii) : False