QUESTION BANK
ON
Land Survey-II (Th.1)
6th Semester

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SHORT QUESTIONS

(1) Define the term 'Isogonic lines' and 'Agonic lines'.

(2) Define the term 'Photogrammetry'.

(3) Define the Multiplying constant and additive constant of a tacheometer.

(4) Express the relation between the radius and degree of curve.

(5) Define GIS.

(6) Express the horizontal distance when line of sight is inclined but staff is held vertically.

(7) What are the common elements of map which are used for reading of maps and interpretation?

(8) Define the term "Bar Scale" in map.

(9) Define Versed sine of a curve. Express it mathematically.

(10) Define the term 'Longitude and Latitude'.

(11) What is a fractional scale or ratio scale ?

(12) What is map?

(13) What is map scale ?

(14) What do you mean by map projection ?

(15) classification of maps?

(16) Types of survey of India map series ?

(17) What is Defence series map (DSM) ?

(18) What is Open Series map ?

(19) What do you mean by aerial photography?

(20) What is Photogrammetry explain?

(21) What do you mean by tacheometry ?

(22) Give the mathematical expression for apex distance in circular curve.

(23) What is tachemetry?

(24) Mention different types of horizontal curves.

(25) Why transition curves are used?

(26) What is meant by a 5º curve?

(27) What do you mean by degree of a curve?

(28) What do you mean by tacheometry ?

(29) Define deflection angle in a simple circular curve.

(30) What is "face left" and "face right" observation in angular measurement by a theodolite and why it is necessary ?

(31) Define a 4 degree cuve.

(32) Define versine of the curve.

(33) What is an anallatic lens ? Why it is used?

(34) Elements of simple circular curve.

(35) Electronic Distance Meter

(36) Transition Curve

(37) Mention different types of horizontal curves.

(38) Why transistion curves are used?

(39) Explain the general equation used for theory of stadia tacheometry.

(40) What is the degree of curve?

(41) What are the components of GIS ?

(42) How is spatial and attribute data linked in a GIS?

(43) What is spatial data ?

(44) What is spatial and attribute data ?

(45) What are the three major purposes of GIS ?

(46) What are the three views of information system in GIS?

(47) What is database view or table view?

(48) What is map in GIS ?

(49) Why are models used in GIS ?

(50) What are the advantages of total station?

(51) What are the types of Photogrammetry?

(52) Types of aerial photographs ?

(53) What is terrestrial photogrammetry ?

(54) What is aerial photogrammetry ?

(55) Process of photogrammetry?

(56) What is difference between DEM and DTM ?

(57) What is ortho image generation?

(58) How is DGPS different from GPS?

(59) What is total station survey?

(60) What are the principles of GPS ?

LONG QUESTIONS

(1) Describe briefly the different elements of a Simple Circular Curve with neat sketch.

(2) Differentiate between vertical aerial photograph and oblique Aerial photograph.

(3) Explain the following terms in connection with the Map Nomenclature.

(i) UTM's (ii) Field notes

(4) Explain briefly about "Thematic Map".

(5) Discussed the advantages and disadvantages of Photogrammetric surveying.

(6) What is a Total Station? Why is it preferred in surveying these days ?

(7) Length of curve

(8) Tangent length

(9) Length of long chord

(10) Mid-ordinate and

(11) Apex distance

(12) Define the term "DGPS". What are the application/uses of DGPS in day-to-day life

(13) How an industrialist can makes feasibility study from maps before set up an industry at local ? Give your views.

Write Short notes on:

(14) Ortho image generation

(15) Magnetic declination

(16) Public land survey system

(17) Open series map

(18) Write down the procedure for setting out curve by deflection angle or one theodolite method.

(19) What is the theory of stadia tacheometry.

(20) What is map and map scale.

(21) What is map projection and classification of map.

(22) What are the notation used in circular curve and properties of simple circular curve.

(23) Write down the method for horizontal curve setting by offsets from chord produced.

(24) Write down the method for setting out horizontal curve by successive bisection of arcs.

(25) Write down the method for setting out horizontal curve by radial offsets from tangent.

(26) Write down the method for setting out horizontal curve by perpendicular offsets from tangent.

(27) Define open series map x numbering system.

(28) Arc length of 180 m. of 3º curve connects two straights. Calculate the tangent length, long chord, mid ordinate and central angle.

(29) Determine the values of stadia constants from the following observations :

(30) Two straight lines of a road intersect at a chainage 2750 m having the angle of intersection equal to 120°. Calculate the chainage of the point of commencement, the point of tangency and legnth of the curve if the degree of the curve is 5°.

(31) A railways embankment is 10 m wide with side slopes 12 to 1. Assuming the ground to be level in a direction transverse to the centre line, calculate the volume contained in a length of 120 meters, the centre heights at 20 m intervals being in meters 2.2, 3.7, 3.8, 4.0, 3.8, 2.8, 2.5. (By trapezoidal rule).

(32) Two straights nut at the point of intersect at chainage of 1280-90 m. The intersection angle is 144° and radius of curve is 300m. The curve is to be set out by offsets from chords produces with pegs at every 20 m of through chainage. Calculate the data required to set out the curve using the method of offset from chords produced.

(33) What are the different types of curves. Draw neat sketches of each.

(34) Methods of taheometry?

(35) A tachemeter was set-up at a station 'C' and the following reading were taken on a staff vertically held.

(36) Describe the method of determining the constants of a tacheometer from field measurements.

(37) What are the notation used in circular curve and properties of simple circular curve.

(38) Two tangents intersect at a chainage of 1550 m, the deflection angle being 350°. A circular curve of radius 180 m is joined by both the above tangents. Find out the tangent length, curve length chainage of both tangent points when the full chord length is 20 m.

(39) Two straight lines of a road intersect at a chainage 2750 m having the angle of intersection equal to 120°. Calculate the chainage of the point of commencement, the point of tangency and legnth of the curve if the degree of the curve is 5°.

(40) A tachemeter was set-up at a station 'C' and the following reading were taken on a staff vertically held.

(41) Arc length of 180 m. of 3º curve connects two straights. Calculate the tangent length, long chord, mid ordinate and central angle.

(42) Two straight lines of a road intersect at a chainage 2750 m. having the angle of intersection equal to 120°. Calculate the chainage

of the point of commencement, the point of tangency and length of the curve if the degree of the curve is 5°.

(43) Two tangents intersect at a chainage of 1200 m, the deflection angle being 35º. A circular curve of radius 180 m is joined by both the above tangents. Find out the tangent length, curve length, chainage of both tangent point when the full chord length is 20 m.

(44) A curve, of 50 chains radius is to be set out between two straight lines AB and CD which meet at an angle inaccessible point E. The angles ABC and BCD are 112°33' and 125°4' respectively and the length BC is 15.44 chains. If the actual chainage to the point B is 100.18 chains, determine the chainage at the tangent point A.

(45) Two straights meet at the point of intersection at chainage of 1280.90 m. The intersection angle is 144° and radius of curve is 300
m. The curve is to be set out by offsets from chords produced with pegs at every 20 m. of through chainage. Calculate the data required to set out the curve using the method of offsets from chords produced.

(46) Two tangents intersect at a chainage of 1550 m, the deflection angle being 350°. A circular curve of radius 180 m is joined by both the above tangents. Find out the tangent length, curve length chainage of both tangent points when the full chord length is 20 m.

(47) Write down the method for setting out horizontal curve by perpendicular
offsets from tangent.

(48) Two tangents intersect at a chainage of 1550 m, the deflection angle being 350°. A circular curve of radius 180 m is joined by both the above tangents. Find out the tangent length, curve length chainage of both tangent points when the full chord length is 20 m.

(49) Two tangents AB and BC intersect at a point B at chainage 150.5
m. Calculate all the necessary data for setting out a circular curve of

radius 100m and deflection angle 30° by the method of offsets from the long chord.

(50) Two tangents intersect at a chainage of 1,000m, the deflection angle being 30º. Calculate all the necessary daata for setting out a circular curve of radius 200m by the method of offsets from the chord produced, taking a peg interval of 20 m.

(51) Two tangents intersect at chainage 1,250 m. The angle of intersection is 150°. Calculate all data necessary for setting out a curvef of radius 250 m by the deflection angle method. The peg intervals may be taken as 20 m. Prepare a setting out table when the least count of the vernier is 20°. Calculate the data for field checking

(52). Two tangents intersect at a chainage of 1,320.0 m, the deflection being 24°. Calculate the following quantities for setting out a curve of radius 275 m.

(53) Tangent length

(54) Length of long chord

(55) Length of the curve

(56) Chainage of point of commencement and tangency

(57) Apex distance and

(58) Versed sine of curve

(59). Two straight lines AC and CB, to be connected by a 3º curve, intersect at a chainage of 2,760 m. The WCBs of AC and CB are 45°30' and 75°30' respectively. Calculate all necessary data for setting out the curve by the method of offsets from the long chord

(60). Two straight lines AB and BC intersect at a chainage of 510.23 m. the angle of intersection being 126°48'. The radius of the curve is 300 m. Calculate all data necessary for setting out the curve by the method of offsets from the chord produced. Assume a peg interval of 30 m.

(61). Characteristics of tacheometer ?

(62) What are the instruments used in tacheometry and principle.

(63) Describe the field procedure for determination of stadia constant ?

(64) Methods of taheometry ?

(65) Types of horizontal curves ?

(66) Describe the field procedure for determination of stadia constant ?

(67) Determine the values of stadia constants from the following observations.

(68) Describe the method of determining the constants of a tacheometer from field measurements.

(69) What are the notation used in circular curve and properties of simple circular curve.

(70) Two tangents intersect at a chainage of 1550 m, the deflection angle being 350°. A circular curve of radius 180 m is joined by both the above tangents. Find out the tangent length, curve length chainage of both tangent points when the full chord length is 20 m.

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(72) Two straight lines of a road intersect at a chainage 2750 m having the angle of intersection equal to 120°. Calculate the chainage of the point of commencement, the point of tangency and legnth of the curve if the degree of the curve is 5°.

(73) Two straights nut at the point of intersect at chainage of 1280-90 m. The intersection angle is 144° and radius of curve is 300m. The curve is to be set out by offsets from chords produces with pegs at

every 20 m of through chainage. Calculate the data required to set out the curve using the method of offset from chords produced.

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(88) Two straight lines of a road intersect at a chainage 2750 m having the angle of intersection equal to 120°. Calculate the chainage of the point of commencement, the point of tangency and legnth of the curve if the degree of the curve is 5^{\circ}. Answer any three questions.

(89) Write down the method for setting out horizontal curve by perpendicular offsets from tangent.

(90). Two tangents intersect at a chainage of 1550 m, the deflection angle being 350°. A circular curve of radius 180 m is joined by both the above tangents. Find out the tangent length, curve length chainage of both tangent points when the full chord length is 20 m.

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