

E-1133

B. E. 3rd Semester (Main & Re) Examination, Dec. – 2019

SURVEYING

Code : BCE-301

Branch : (CE)

Time : Three Hours]

[Maximum Marks : 60

Note : Attempt *all* parts. All parts carry equal marks.

PART – A

Note : Answer *all* the questions :

1. Which of the following is classification based on the instrument used ? 1
 - (a) Topographic surveying
 - (b) Hydrographic surveying
 - (c) Cadastral surveying
 - (d) Traverse surveying
2. Prismatic compass is an instrument for measuring angles. 1
 - (a) True
 - (b) False
3. Which of the following presence is not affected for compass surveying ? 1
 - (a) Steel structures
 - (b) Wooden structures
 - (c) Iron ore deposits
 - (d) Electric cables conveying currents
4. In Compass traversing length of lines are measured by : 1
 - (a) Chain
 - (b) Compass
 - (c) Theodolite
5. A Contour line is a line on the map representing a contour. 1
 - (a) True
 - (b) False

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6. The vertical distance between any two contours is called a contour interval. 1
 (a) True
 (b) False
7. The transit theodolites are also called plain theodolites. 1
 (a) True
 (b) False
8. How many types do theodolites classified? 1
 (a) 2 (b) 3
 (c) 4 (d) 5
9. In plane table surveying, plotting and recording of values are done simultaneously. 1
 (a) True
 (b) False
10. Alidade is used for : 1
 (a) Sighting
 (b) Levelling
 (c) Transferring point to ground
 (d) Drawing lines

PART - B

Note : Answer *four* questions :

Write answer of each part in short.

1. Explain tapes and its types in detail. 5
2. Explain in detail with figure. 5
 (i) Back Tangent
 (ii) Forward Tangent
 (iii) Point of curve
 (iv) Deflection Angle
3. Differentiate between prismatic compass and surveyor's compass. 5
4. What are the effects of curvature and refraction in surveying? 5

PART - C

Note : Answer *three* out of *four* questions.

1. Derive the equation of ideal transition curve. 10
 2. Why do you need of three points problem in plane table surveying ? Explain it in brief with neat sketch. 10
 3. (a) Calculate the ordinates at 12 m interval for a circular curve. The long chord is 60m and radius is 160m. 10
(b) Convert the following Q.B. in W.C.B.
 - (i) N 34° 30'E
 - (ii) S 55° 30' E
 - (iii) N 77° 30' W
 - (iv) S 29° 30' W
 4. Two tangents intersect at a chainage 2052 m deflection angle 60°30'. Calculate the necessary data for setting out a curve of 300m radius to connect two tangents. It is intended to setout curve the curve by offsets from chord produced. Take peg interval = 20m. length of chain being used = 20 m. 10
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