Code No: R05210105 **R05** **Set No. 2**

II B.Tech I Semester Examinations,November 2010
SURVEYING
Civil Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Describe different types of chains and tapes commonly used in Surveying stating the advantages of each.
   (b) Describe in detail how you would range and chain a line between two points which are not intervisible because of an intervening hillock. [8+8]

2. The following perpendicular offsets were taken from a chain line to an irregular boundary

Chain age:	0	10	25	42	60	75m
Offset:	15.5	26.2	31.8	25.6	29.0	31.5m

   Calculate the area between the chain line, the boundary and the end offsets. [16]

3. The following lengths and bearings were recorded in running a Theodolite traverse. Determine the omitted observations, the length & bearing of SP. [16]

Line	Length (m)	WCB
PQ	255	14^0 042′
QR	656	35^0 00′
RS	120	338^0 42′
SP	–	–

4. (a) Why are the curves provided. Explain different types of curves with neat sketches.
   (b) Two straights intersect at a chainage of 3500.5m with an angle of intersection of 156^0. These two straights are to be connected by a simple circular curve of 200m radius. Calculate the data necessary by the method of offsets from the chords produced with a peg interval of 20m. Explain the procedure to set out the curve. [7+9]

5. (a) Explain
   i) Whole circle and Reduced bearing and
   ii) Fore and Back bearings of a Line.

   (b) The following bearings were taken in traversing with a compass. Locate the local attraction and determine corrected bearings.

Line	F.B	B.B
AB	$S45^030'E$	$N45^030'W$
BC	$S60^000'E$	$N60^040'W$
CD	$S5^030'E$	$N3^020'W$

DA	$N80^0 30'W$	$S82^0 00'E$

[8+8]

6. With the help of neat sketches explain the uses of contour maps. [16]

7. A tacheometer is set up on a bench mark of R.L. 60.00m. The horizontal axis of the instrument is 1.240m above the bench mark. The following observations were made with staff held vertically:

Staff station	Vertical angle	Stadia hair reading	Central hair reading
A	$+3^0 30'$	0.400 1.660	1.030
B	$-8^0 20'$	0.900 1.640	1.270
C	$+9^0 50'$	1.00 2.320	1.660

If the instrument constants k and c are 100 and 0.0m, respectively, determine the R.L. of the staff stations. [16]

8. (a) What are the similarities and differences between mapping and GIS?
   (b) What is the role of Data Base Management in Geographical information System?
   (c) Differentiate Thematic Map and Topographical Map. [8+4+4]

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Code No: R05210105 **R05** **Set No. 4**

II B.Tech I Semester Examinations,November 2010
SURVEYING
Civil Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. The following perpendicular offsets were taken from a chain line to an irregular boundary

Chain age:	0	10	25	42	60	75m
Offset:	15.5	26.2	31.8	25.6	29.0	31.5m

Calculate the area between the chain line, the boundary and the end offsets. [16]

2. (a) Explain
i) Whole circle and Reduced bearing and
ii) Fore and Back bearings of a Line.

(b) The following bearings were taken in traversing with a compass. Locate the local attraction and determine corrected bearings.

Line	F.B	B.B
AB	$S45^0 30'E$	$N45^0 30'W$
BC	$S60^0 00'E$	$N60^0 40'W$
CD	$S5^0 30'E$	$N3^0 20'W$
DA	$N80^0 30'W$	$S82^0 00'E$

[8+8]

3. The following lengths and bearings were recorded in running a Theodolite traverse. Determine the omitted observations, the length & bearing of SP. [16]

Line	Length (m)	WCB
PQ	255	14^0 042′
QR	656	35^0 00′
RS	120	338^0 42′
SP	–	–

4. (a) What are the similarities and differences between mapping and GIS?
(b) What is the role of Data Base Management in Geographical information System?
(c) Differentiate Thematic Map and Topographical Map. [8+4+4]

5. (a) Describe different types of chains and tapes commonly used in Surveying stating the advantages of each.
(b) Describe in detail how you would range and chain a line between two points which are not intervisible because of an intervening hillock. [8+8]

6. (a) Why are the curves provided. Explain different types of curves with neat sketches.

   (b) Two straights intersect at a chainage of 3500.5m with an angle of intersection of 156^0. These two straights are to be connected by a simple circular curve of 200m radius. Calculate the data necessary by the method of offsets from the chords produced with a peg interval of 20m. Explain the procedure to set out the curve. [7+9]

7. With the help of neat sketches explain the uses of contour maps. [16]

8. A tacheometer is set up on a bench mark of R.L. 60.00m. The horizontal axis of the instrument is 1.240m above the bench mark. The following observations were made with staff held vertically:

Staff station	Vertical angle	Stadia hair reading	Central hair reading
A	$+3^0 30'$	0.400 1.660	1.030
B	$-8^0 20'$	0.900 1.640	1.270
C	$+9^0 50'$	1.00 2.320	1.660

   If the instrument constants k and c are 100 and 0.0m, respectively, determine the R.L. of the staff stations. [16]

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Code No: R05210105 **R05** **Set No. 1**

II B.Tech I Semester Examinations,November 2010
SURVEYING
Civil Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the similarities and differences between mapping and GIS?
   (b) What is the role of Data Base Management in Geographical information System?
   (c) Differentiate Thematic Map and Topographical Map. [8+4+4]

2. (a) Why are the curves provided. Explain different types of curves with neat sketches.
   (b) Two straights intersect at a chainage of 3500.5m with an angle of intersection of 156^0. These two straights are to be connected by a simple circular curve of 200m radius. Calculate the data necessary by the method of offsets from the chords produced with a peg interval of 20m. Explain the procedure to set out the curve. [7+9]

3. The following lengths and bearings were recorded in running a Theodolite traverse. Determine the omitted observations, the length & bearing of SP. [16]

Line	Length (m)	WCB
PQ	255	14^0 042′
QR	656	35^0 00′
RS	120	338^0 42′
SP	–	–

4. (a) Describe different types of chains and tapes commonly used in Surveying stating the advantages of each.
   (b) Describe in detail how you would range and chain a line between two points which are not intervisible because of an intervening hillock. [8+8]

5. A tacheometer is set up on a bench mark of R.L. 60.00m. The horizontal axis of the instrument is 1.240m above the bench mark. The following observations were made with staff held vertically:

Staff station	Vertical angle	Stadia hair reading	Central hair reading
A	$+3^0 30'$	0.400 1.660	1.030
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C	$+9^0 50'$	1.00 2.320	1.660

If the instrument constants k and c are 100 and 0.0m, respectively, determine the R.L. of the staff stations. [16]

6. The following perpendicular offsets were taken from a chain line to an irregular boundary

Chain age:	0	10	25	42	60	75m
Offset:	15.5	26.2	31.8	25.6	29.0	31.5m

Calculate the area between the chain line, the boundary and the end offsets. [16]

7. With the help of neat sketches explain the uses of contour maps. [16]

8. (a) Explain
i) Whole circle and Reduced bearing and
ii) Fore and Back bearings of a Line.

(b) The following bearings were taken in traversing with a compass. Locate the local attraction and determine corrected bearings.

Line	F.B	B.B
AB	$S45^0 30'E$	$N45^0 30'W$
BC	$S60^0 00'E$	$N60^0 40'W$
CD	$S5^0 30'E$	$N3^0 20'W$
DA	$N80^0 30'W$	$S82^0 00'E$

[8+8]

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Code No: R05210105 **R05** **Set No. 3**

II B.Tech I Semester Examinations,November 2010
SURVEYING
Civil Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Why are the curves provided. Explain different types of curves with neat sketches.
   (b) Two straights intersect at a chainage of 3500.5m with an angle of intersection of 156^0. These two straights are to be connected by a simple circular curve of 200m radius. Calculate the data necessary by the method of offsets from the chords produced with a peg interval of 20m. Explain the procedure to set out the curve. [7+9]

2. (a) What are the similarities and differences between mapping and GIS?
   (b) What is the role of Data Base Management in Geographical information System?
   (c) Differentiate Thematic Map and Topographical Map. [8+4+4]

3. The following lengths and bearings were recorded in running a Theodolite traverse. Determine the omitted observations, the length & bearing of SP. [16]

Line	Length (m)	WCB
PQ	255	14^0 042′
QR	656	35^0 00′
RS	120	338^0 42′
SP	–	–

4. (a) Explain
   i) Whole circle and Reduced bearing and
   ii) Fore and Back bearings of a Line.

   (b) The following bearings were taken in traversing with a compass. Locate the local attraction and determine corrected bearings.

Line	F.B	B.B
AB	$S45^030'E$	$N45^030'W$
BC	$S60^000'E$	$N60^040'W$
CD	$S5^030'E$	$N3^020'W$
DA	$N80^030'W$	$S82^000'E$

   [8+8]

5. With the help of neat sketches explain the uses of contour maps. [16]

6. A tacheometer is set up on a bench mark of R.L. 60.00m. The horizontal axis of the instrument is 1.240m above the bench mark. The following observations were made with staff held vertically:

Staff station	Vertical angle	Stadia hair reading	Central hair reading
A	$+3^0 30'$	0.400 1.660	1.030
B	$-8^0 20'$	0.900 1.640	1.270
C	$+9^0 50'$	1.00 2.320	1.660

If the instrument constants k and c are 100 and 0.0m, respectively, determine the R.L. of the staff stations. [16]

7. The following perpendicular offsets were taken from a chain line to an irregular boundary

Chain age:	0	10	25	42	60	75m
Offset:	15.5	26.2	31.8	25.6	29.0	31.5m

Calculate the area between the chain line, the boundary and the end offsets. [16]

8. (a) Describe different types of chains and tapes commonly used in Surveying stating the advantages of each.

   (b) Describe in detail how you would range and chain a line between two points which are not intervisible because of an intervening hillock. [8+8]

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