[01 – 2204]

II/IV B.E. DEGREE EXAMINATION.

Second Semester

Civil Engineering

SURVEYING — II

(Common with Civil Environmental Engineering and
Dual Degree Programme in Civil Engineering)

(Effective from the admitted batch
of 1999-2000 and after batches)

Time : Three hours   Maximum : 70 marks

Question No.1 is compulsory.

Answer any FOUR from the remaining.

All questions carry equal marks.

Question No.1 are to be written in the same
sequence at one place only.

1. (a)   What is Tacheometer?

    (b)   What is reverse curve?

    (c)   Draw the format of Gale's traverse table.

    (d)   What is axis signal correction?

    (e)   What is trilateration?

(f) What is subtense bar?

(g) How the least count of theodolite can be found?

2. (a) What are the temporary adjustments of theodolite?

(b) What are the permanent adjustments'? Explain with figures.

3. (a) What are the methods to adjust closing error? Explain.

(b) Explain about the types of omitted measurements.

4. The following traverse was run with a theodolite and chain. Calculate the closing error if any and adjust.

Line	Length	Angle
AB	162.42 m	$\underline{A} = 131°\ 53'10''$
BC	233.71 m	$\underline{B} = 114°\ 19'20''$
CD	319. 19 m	$\underline{C} = 105°\ 14'30''$
DE	327. 51 m	$\underline{D} = 117°\ 30'20''$
EA	425. 44 m	$\underline{E} = 68°\ 03'40''$

5. A traverse is run to set out a line MQ = 1900 m at right angles to a given line MN. The length and bearings observed is as follows. Compute the length and bearing of PQ.

Line	Length (m)	Bearing
MN	–	360°
MO	850	120°
OP	1000	86° 30'
PQ	–	–

6. Derive formulae for horizontal distance and vertical elevation for a staff kept in vertical position and inclined positions.

7. (a) Explain about various triangulation systems.

   (b) Explain about transition curve.

8. Write about the following :

   (a) Trigonomenic levelling

   (b) Compound curve

   (c) Bowditch method