Code No: RT21015 **R13** SET - 1

II B. Tech I Semester Supplementary Examinations, Oct/Nov- 2017
SURVEYING
(Civil Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1. a) Explain the objectives of surveying?
   b) Define Meridians.
   c) What are the different permanent adjustments?
   d) What are the uses of Trigonometrical leveling?
   e) What is GPS?
   f) How to determine Capacity of a reservoir?

PART -B

2. A steel exactly 30m long at 18°C when supported throughout its length under a pull of 8 kg, A line was measured with a tape under a pull of 12 kg and found to be 1602 m. The mean temperature during the measurement was 26^0 C. Assuming the tape to be supported at every 30m,calculate the length of the line, given that cross sectional area of the tape is 0.04 sq.cm, the weight of 1 cc = 0.0077 kg, the coefficient of expansion=0.000012 per 1°C,and the modulus of elasticity = 2.1 x 10^3 kg / sq.cm

3. The bearing of one side of a regular pentagon was found to be N300E. Find bearings of other lines. The following angles were observed in clockwise direction in an open traverse angle ABC = 124°15', angle BCD = 156°30' angle CDE = 102°0' angle DEF = 95°15' angle EFG = 215°30' magnetic bearing of line AB was 241°30'.what would be the bearing of line FG =?

4. The following consecutive readings were taken along AB with a 4m leveling staff on continuously sloping ground at intervals of 30m: 0.34m on A, 1.450, 2.630, 3.875, 0.655, 1.745, 2.965, 3.945, 1.125, 2.475, 3.865 on B. The elevation A was 60.350. enter the above readings in a level book form and work out RLs by rise and fall method. Also find the gradient of the line AB.

5. a) State the situations where tacheometric survey is carried out. Explain second method of determination of constant of tacheometer in the field.
   b) Enlist the fundamental axes of theodolite. State the relation between the fundamental lines when transit is in perfect adjustment.

6. a) Define curve. State different types of horizontal circular curves.
   b) Explain compound curve? With Neat sketches?

7. The following perpendicular offsets were taken at 15 metres intervals from a survey line to a an irregular boundary line. 3.25, 5.60, 4.20, 6.65, 8.75, 6.20, 3.25, 4.20, 5.65.calculate the area using average ordinate rule, trapezoidal rule and Simpson's rule
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