REGISTRATION NUMBER | | | | | | | | | | |

SRINIX COLLEGE OF ENGINEERING

1ST INTERNAL EXAMINATION-2017-18

Subject-**AS** Semester-4TH Branch-**CIVIL**

Full Mark-**30** Time-**1.30Hrs**

ANSWER ALL QUESTIONS (PART-A) **[2X5]**

1. The multiplying constant is denoted by _____

   (a) f/i (b) i/f (c) i × f (d) i + f

2. When the line of sight is inclined and the staff held vertically, the horizontal distance is given by:

   (a) f/i s $\cos^2\theta$ + (f + d) $\cos\theta$
   (b) f/i s $\sin^2\theta$ + (f + d) $\sin\theta$
   (c) f/i s $\cot^2\theta$ + (f + d) $\cot\theta$
   (d) f/i s $\tan^2\theta$ + (f + d) $\tan\theta$

3. The stadia diaphragm is provided for measuring _____

   (a) Elevation (b) bearing (c) horizontal distance

4. The additive constant is denoted by _____

   (a) f/i (b) f/d (c) f + d (d) f - d

5. In tangential tacheometry the staff is held _____

   (a) Inclined (b) normal to the line of sight (c) vertically

ANSWER ALL QUESTIONS (PART-A) **[2X5]**

1. What is Tachometry?
2. What is fixed hair method and moveable hair method?
3. What is substance bar?
4. What is tangential Tachometry?
5. What are the errors of Tachometry?

ANSWER ANY ONE QUESTION (PART-A) **[10X1]**

1. An observation with a percentage theodolite gave staff readings of 1.052 and 2.052 for angles of elevation of 5% and 6% respectively. On sighting the graduation corresponding to the height of the instrumental axis above the ground, the vertical angle was 5.25%. Compute the horizontal distance and the elevation of the staff station if the instrument station has an elevation of 942.552 metres. **[10]**
2. The tangents AB and BC intersects at B. another line DE intersects AB and BC at D and E such that <ADE = 150^0 and <DEC = 140^0. The radius of the first curve is 200m and that of the second is 300m. the chainage of B is 950m. calculate all data necessary for setting out the compound curve. **[10]**
3. A tacheometer was set up at a station A and the readings on a vertical held staff at B were 2.255, 2.605 and 2.995, the line of sight being at an inclination of $+8^0$24'. Another readings 1.640, 1.920 and 2.200, the inclination of the line of sight being $+1^0$6'. Calculate the horizontal distance between A and B and the elevation of B if the R.L of B.M is 418.685m. the constants of the instruments were 100 and 0.3. **[10]**