Jadavpur University
1ST YEAR 1ST SEMESTER B.Sc. Examination 2017
GEOGRAPHY (HONOURS) PRACTICAL

Paper 103 (P)

Time: 04 hours Full marks: 50

1. a) Draw a Vernier scale to read 3.78 inch. Given the value of the smallest main scale division = 0.1 inch and 10 Vernier scale divisions are equal to 9 main scale divisions. Calculate the Vernier constant. (7+1)
   b) What are the advantages of a graphical scale? (2)

2. a) Draw the graticule on Polar Zenithal Stereographic Projection for the southern hemisphere at an interval of 15° with RF = 1:180,000,000. (12)
   b) What is meant by a developable surface? (1)
   c) What is meant by tangential scale? (2)

3. a) The following forward and backward bearings were observed while conducting a prismatic compass survey. Correct for local attractions. (3)

Lines	Forward Bearing	Backward Bearing
AB	$44^0 30'$	$226^0 30'$
BC	$124^0 30'$	$303^0 15'$
CD	$181^0 00'$	$1^0 00'$
DA	$289^0 30'$	$108^0 45'$

   b) The Forward bearings of lines are as follows, find out their back bearings. (2)
      i) AB= N $26^0 14'$E
      ii) BC= S $78^0 18'$E
      iii) PQ= $88^0 30'$
      iv) QR= $142^0 15'$

OR

4. The following consecutive readings were taken with a Dumpy Level and 4m staff at a common interval of 30 m: 3.864, 3.346, 2.932, 1.952, 0.854, 3.796, 2.639, 1.542, 1.934, 0.864, 0.665.The level was shifted after the 5th and 8th readings. The first reading was taken on the BM of RL 150.250 m
   a) Rule out a page of a labelled field book and enter the above readings. (2)
   b) Calculate the Reduced Levels of the given stations. (3)

6. Determine the height of the object with the help of given database recorded by Transit Theodolite and plot it according to scale. (5+5)

Station of Observation	Face	Vertical Angle		Remarks
		VC	VD	
A	Left	$33^0 47'$	$33^0 54'$	i) Height of the instrument at A and B = 1.50 m. ii) Distance between A and B = 8.0 m
	Right	$35^0 30'40''$	$35^0 33'20''$	
B	Left	$41^0 4'20''$	$41^0 5'$	
	Right	$42^0 58'$	$42^0 58'$	

7. Laboratory note book and viva voce. (5+5)