Roll No .....

CE - 502

B.E. V Semester

Examination, December 2013

Advanced Surveying

Time : Three Hours *Maximum Marks : 70*

Note: Answer one full question from each unit. All questions carry equal marks.

1. a) Give an example of microwave EMD instrument and explain its principle of working. 7
   b) Explain with line diagram principle and working of Digital Levels. 7

OR

   a) Distinguish between the principle and working of visible light and infrared light EMD instruments. 7
   b) Explain with line sketch principal and working of Digital Theodolite. 7

2. a) Explain the method of determination of shortest distance between two points on earth. 5
   b) Write short notes on following: 9
      i) Cartesian co-ordinates
      ii) Local and projected co-ordinates
      iii) Convergence of meridian

OR

   a) Enlist seven different methods of determination of latitude of a place and explain anyone of them in detail. 7
   b) What are the different coordinate systems for locating heavenly bodies? 7

3. a) What are the different GPS observation methods? Enlist advantages of each separately. 7
   b) Explain in detail "Digital Terrain Model". 7

OR

   a) Write short notes on following: 8
      i) GPS surveying ii) DTM advantages
   b) Explain in detail the latest technique of topographic representation of terrain. 6

4. a) What is tilt distortion? Prove that, in a tilted photograph, tilt distortion is radial from the isocenter. 7
   b) What are the photo/image interpretation methods by stereoscope, explain Aerial photo/image interpretation keys, with suitable examples? 7

OR

   a) Write short notes on the following:
      i) Flight planning for aerial photography
      ii) Stereoscopic vision on vertical photographs 8
   b) Define: 6
      i) Air base ii) Tilt displacement
      iii) Principal point iv) Isocenter

5. a) Explain with a sketch the components of remote sencing system. 7
   b) Describe in detail remote sensing and GIS application in urban growth analysis. 7

OR

   a) Explain the methods of soil properties assessment for Civil Engineering applications on the basis of remote sensing techniques. 7
   b) What is a GIS? Explain its essential components and draw illustrative diagram for the following components:
      i) Distinguish between spatial and spatial data
      ii) Software and hardware components of GIS
      iii) GIS applications in Civil Engineering. 7