

B.Tech Sem – VI (2007 Course) (Civil Engg.) : WINTER - 2018

SUBJECT: ADVANCED SURVEYING

Day : Tuesday
Date : 13/11/2018

W-2018-2842

Time : 10.00 AM TO 01.00 PM
Max. Marks : 80

N.B.:

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining attempt **ANY TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.
- 4) Use of non-programmable calculator is **ALLOWED**.
- 5) Draw neat and labeled diagram **WHEREVER** necessary.
- 6) Assume suitable data, if necessary.

SECTION - I

- Q. 1**
- a) State laws of weights. **(05)**
 - b) State and explain types of aerial photographs. **(04)**
 - c) List the objectives of hydrographic surveys. **(05)**
- Q. 2**
- a) State and drive the principle of least square. **(06)**
 - b) Find the most probable values of angles A, B and C of triangle ABC from **(07)**
following observations:
 $\angle A = 58^{\circ} 24' 45'' - wt 1$
 $\angle B = 52^{\circ} 12' 33'' - wt 2$
 $\angle C = 69^{\circ} 22' 36'' - wt 3$
- Q. 3**
- a) Explain following terms in photogrammetry **(06)**
 - i) Principle point
 - ii) Ground control survey
 - iii) Ortho photo
 - b) Explain use of parallax bar for parallax measurement of aerial photos. **(07)**
- Q. 4**
- a) Explain process of traverse survey using total station in detail. **(06)**
 - b) What is meant by three point problem in Hydrographic survey? Explain analytical solution of three point problem. **(07)**

SECTION – II

- Q. 5**
- a) Define remote sensing and differentiate between active and passive remote sensing. **(05)**
 - b) Describe different types of data used in GIS. **(05)**
 - c) Describe in brief navigational GPS receivers. **(04)**
- Q. 6**
- a) Explain the terms spatial and radiometric resolution in remote sensing. **(06)**
 - b) Describe environment applications of remote sensing. **(07)**
- Q. 7**
- a) State components of GIS and comment in brief on any one of it. **(06)**
 - b) Describe in brief software and hardware requirements of GIS. **(07)**
- Q. 8**
- a) What is DGPS? Explain its working principle. **(06)**
 - b) Describe space segment and control segment of G.P.S. **(07)**