B.Tech. SEM -V (Civil) 2014 Course (CBCS) : WINTER - 2018
SUBJECT : ADVANCED SURVEYING

Day : Saturday	**W-2018-2385**	Time : 02.30 PM TO 05.30 PM
Date : 24/11/2018		Max. Marks : 60

N. B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Use of non-programmable **CALCULATOR** is allowed.
4) Assume suitable data, if necessary.

Q. 1 a) Explain with sketches various triangulation figures and state suitability of **(04)** each.

b) Following are the observed values of angles A, B and C at a station. The **(06)** angles being subject to the condition: A + B = C

$$A = 30^0 \ 12' \ 28''$$
$$B = 35^0 \ 48' \ 13''$$
$$C = 66^0 \ 0' \ 45''$$

Find most probable values of A, B and C.

OR

State and derive the principle of least square. **(10)**

Q. 2 a) State important feature of electronic total station. **(05)**

b) State various types of errors in total station survey. **(05)**

OR

a) State and explain different on board programs available with total station. **(05)**

b) Explain the process of data down loading in total station. **(05)**

Q. 3 a) What is D-GPS? Explain its working. **(05)**

b) State and explain different access denial techniques in SBPS. **(05)**

OR

a) State errors in positioning with SBPS. **(05)**

b) Explain the principle of absolute positing in SBPS. **(05)**

Q. 4 a) State various sounding equipments and explain any one in detail. **(05)**

b) Define Hydrographic surveying and enlist various objective of Hydrographic **(05)** surveying.

OR

The $\angle AOB = 40^0 25^1$ and $\angle BOC = 55^0 25^1$ are measured with nautical **(10)** sextant at a sounding station 'O' with respect to three control station A, B and C. On bank, station B and O being on opposite side of line AC. $AB = 5.8$ km $BC = 4.995$ km and $AC = 8.169$ km.

Workout distances of the sounding station 'O' from station A, B and C.

Q. 5 **a)** Define ground control points. State their role in photogrammetry. **(05)**

b) Distinguish between aerial photograph and map. **(05)**

OR

Scale of aerial photograph is 1: 25000, effective at an average elevation of **(10)** terrain of 335 m. The size of aerial photograph is 230 mm ×230 mm, focal length of camera lens is 200 mm. speed of aircraft is 270 km/h. longitudinal overlap 65 % and side lap is 25%. Determine the number of photograph required to cover an area of 150 km × 105 km.

Q. 6 **a)** Write advantages and limitation of remote sensing. **(05)**

b) Explain in detail about vector model. **(05)**

OR

a) What are the components of GIS? **(05)**

b) Explain with help of neat sketch, an idealized remote sensing system. **(05)**

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