B.Tech. SEM -V (Civil) 2014 Course (CBCS) : SUMMER - 2019

SUBJECT: ADVANCED SURVEYING

Day: Saturday
Date: 11/05/2019

S-2019-2650

Time: 10.00 AM TO 01.00 PM
Max. Marks: 60

N.B.

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

Q.1 State and derive principle of least square. **(10)**

OR

a) Determine the MPV's of angles P and Q from the following observations **(06)**
$P = 24^0\ 12'\ 18"$
$Q = 32^0\ 14'\ 20"$
$P + Q = 56^0\ 26'42"$

b) What is base line? Explain the process of base extension. **(04)**

Q.2 **a)** State various functions performed by total station. **(05)**

b) Explain types of total station based on type EDM and range. **(05)**

OR

a) Explain temporary adjustments of total station. **(05)**

b) State and explain errors in total station survey. **(05)**

Q.3 State and explain with sketch various segment of SBPS. **(10)**

OR

a) What is DGPS? Explain its principal and working. **(05)**

b) State features GNSS type SBPS in action. **(05)**

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

b) State various methods of locating the position of boat in hydrographical surveying. Explain any one in detail. **(05)**

OR

a) Explain what you understand by three point problem. Give solution by any one graphical method. **(05)**

b) Explain reduction of sounding. **(05)**

P. T. O.

Q.5 **a)** A line measure 11cm on photograph taken with camera having focal length of 21.5cm the same line measured 3cm on a map drawn to scale 1:45000. Calculate the flying height of the aircraft, if the average altitude is 350m **(06)**

b) Define following terms: **(04)**

i) Air Base Distance **ii)** Principal Point

OR

a) Explain ground control point .bring out difference between pre marked and post marked ground control point. **(05)**

b) Describe the procedure measuring the parallax using parallax bar. **(05)**

Q.6 **a)** What is GIS? State various software's and explains how remote sensing and GIS linked. **(06)**

b) What are component of a GIS? **(04)**

OR

a) Explain the application of GIS in visibility analysis and slope analysis. **(06)**

b) What are the limitations of remote sensing? **(04)**

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