B.E. CIVIL ENGINEERING. SECOND YEAR SECOND SEMESTER - 2017

Subject: SURVEYING-III   Time: Three Hours   Full Marks: 100 (40 for Part-I)

Part: Part-I

Use a Separate Answer-Script for Each Part
Answer any 2 (Two) questions

1. Explain the difference between 'Topographic Displacement' and 'Displacement Due to Tilt' 20
    in relation to Photogrammetry. With a neat diagram deduce how the error due to tilt could be
    expressed as a fraction of the topographic displacement using standard terminologies and
    symbols.

2. (a) With a neat diagram deduce the expression for finding out the height of a cloud from the 15
    image of the cloud and its shadow taken from a flight. From the deduced expression
    calculate the cloud height if Height of the Flight = 2000 m; Distance of Object Image to
    Shadow Image = 15 mm; and Distance of Object Image to No Shadow Point Image = 20
    mm.

   (b) A tree was found to have a parallax difference of 0.5 mm and the absolute parallax of the 5
    tree base is 90 mm. Find the flying height if the tree is 25 m high.

3. (a) Discuss the major components and their functions of a typical Electronic Distance 12
    Measuring Instrument (EDMI) in brief with a suitable diagram.

   (b) With suitable mathematical expressions describe the velocity corrections in relation to EDM 8

BACHELOR OF CIVIL ENGINEERING EXAMINATION 2017
(Second Year, Second Semester)

SURVEYING III

Time: Three Hours

	Full Marks 100
	Part I: 40 Marks
	Part II: 60 Marks

Use a separate Answer-Script for each part

Question No.		Part II (60 Marks)	Marks
		Answer any **THREE** Questions from this Part	
1	(a)	Define 'Remote Sensing' and 'Satellite Remote Sensing'.	2+2=4
	(b)	Discuss on 'Electromagnetic Spectrum' with a neat sketch.	9
	(c)	Explain briefly about the different types of 'Energy Interactions in the Atmosphere'	7
2	(a)	Draw a typical 'spectral reflectance envelope' for deciduous and coniferous type tree.	8
	(b)	Draw a typical 'spectral reflectance curve' for vegetation, soil and water.	8
	(c)	What is the difference between 'spectral reflectance envelope' and 'spectral reflectance curve'? Why this difference occurs?	4
3	(a)	What is mean by reference data in remote sensing? What are they?	4
	(b)	Which reference data is considered as most authentic and why?	3
	(c)	What is the utility of reference data in remote sensing?	3
	(d)	Satellite image is raster data or vector data?	1
	(e)	What is called Geographic Information System (GIS)? Explain briefly.	3
	(f)	Compare between Land Survey, Photogrammetry, and Satellite Remote Sensing?	6
4	(a)	What is FCC? Make a list of the basic information which can be obtained from a FCC.	2+5=7
	(b)	Why the vegetation shows red in FCC?	2
	(c)	How can you identify the river flood plain from FCC?	3
	(d)	How can you identify (visually) oxbow lake in FCC?	2
	(e)	How do you differentiate artificial features from natural one in satellite imageries?	2
	(f)	How do you differentiate cloud coverage from snow coverage in satellite imageries?	2
	(g)	A green play ground is not showing red colour in FCC. Explain the reason behind it.	2