Ref. No.EX/CE/5/T/201/2018(S)

B.E. CIVIL ENGINEERING (PART TIME) SECOND YEAR FIRST SEMESTER EXAM
(Supplementary) - 2018

Subject: SURVEYING-III **Time: Three Hours** **Full Marks: 100 (50 for Part-I)**

Part: Part-I

Use a Separate Answer-Script for Each Part
Answer any 3 (Three) questions (Two Marks for Neatness)

1.	(a)	With a neat diagram, explain the following terms related to Aerial Photogrammetry: Ground and Photo Plumb Points, Ground and Photo Principal Points, Ground and Photo Iso-Centres, Plate Parallels and Iso-Metric Parallels.	8
1.	(b)	With a neat diagram deduce the expression for finding out the height of a cloud from the image of the cloud and its shadow taken from a flight.	8
2.	(a)	With neat diagrams deduce the expressions to find out the shadow length on a horizontal and an inclined plane (both uphill and downhill) when the angle of solar insolation is Ψ and the ground slope is λ for inclined plane.	8
2.	(b)	With neat diagrams deduce the expressions for 'Air Base' In relation to Stereoscopic Study.	8
3.	(a)	With a neat diagram deduce the expression for the displacement in Stereoscopic Pairs.	10
3.	(b)	A tree was found to have a parallax difference of 0.5 mm and the absolute parallax of the tree base is 90 mm. Find the flying height if the tree is 25 m high using the expression deduced in Q. No. 2. (a).	6
4.	(a)	Discuss the major components and their functions of a typical Electronic Distance Measuring Instrument (EDMI) in brief with a suitable diagram.	10
4.	(b)	With suitable mathematical expressions describe the velocity corrections in relation to EDM.	6

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BACHELOR OF ENGINEERING
(CIVIL ENGINEERING, SECOND YEAR, FIRST SEMESTER, SUPPLEMENTARY) EXAMINATION 2018

SURVEYING III

Time: Three Hours | Full Marks 100
(50 marks for each part)

Use a separate Answer-Script for each part

Question No.		Part II	Marks
Answer **10 marks from Question 1 as Compulsory** & any Two Questions from the rest 2,3,4, & 5 of this Part			
1	(a)	Draw a typical 'spectral reflectance envelope' for deciduous and coniferous type tree.	10
	(b)	Why 'Ground Truth Verification' is essential in remote sensing?	5
	(c)	How do you identify the natural and artificial features through satellite imageries?	3
	(d)	How do you differentiate the clouds from snow coverage in an image?	2
2	(a)	What is called Geo-referencing in digital image processing? Why it is essential? How it can be done?	3+2+3=8
	(b)	What do you mean by image classification? How it can be categorized? Explain briefly.	2+4=6
	(c)	What are different methodologies for image classification? Explain briefly.	6
3	(a)	What are the basic information that one can have from a FCC? Why the vegetation shows red in FCC?	5+2=7
	(b)	When a playground will not show red colour in FCC?	3
	(c)	How can you identify (visually) oxbow lake in FCC?	2
	(d)	What is 'band ratio'? Why it is required in remote sensing?	3
	(e)	Why the knowledge about the study area is essential for image interpretation?	5
4	(a)	How do you select different bands and colors for soil, vegetation and water? Explain briefly.	12
	(b)	"Spectral reflectance of two different features may be same, and similar features may be different". Explain its correctness.	5
	(c)	How do you identify the different kinds of vegetation in the satellite imageries?	3
5	(a)	How do you select different bands and colours for soil, vegetation and water? Explain briefly by graphical method.	12
	(b)	What is 'band ratio'? Why it is required in remote sensing?	1+2=3
	(c)	What is range of visible lengths? Mention the range of wave length for UV ray, Green, Red, Thermal IR, Blue, Middle IR, and Near IR.	1+4=5