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BTECH
(SEM III) THEORY EXAMINATION 2021-22
SURVEYING AND GEOMATICS

Time: 3 Hours**Total Marks: 100****Note:** Attempt all Sections. If you require any missing data, then choose suitably.**SECTION A****1. Attempt all questions in brief.****2x10 = 20**

Q.no	Questions	Marks	CO
(a)	What are the initial and final Sub-cords?	2	2
(b)	Define Surveying and write down its principles?	2	1
(c)	What do you understand by terms Degree of a curve?	2	2
(d)	What is difference between accuracy and precision?	2	1
(e)	Differentiate between active and passive sensor.	2	3
(f)	Explain the term Closing Error. How do you find its magnitude and bearing?	2	3
(g)	Explain the basic Principle of Tacheometry.	2	4
(h)	What do you understand by Photogrammetry?	2	4
(i)	Explain the term "Electromagnetic Spectrum"?	2	5
(j)	Explain the principle on which Radar works?	2	5

SECTION B**2. Attempt any three of the following:****10x3 = 30**

Q.no	Questions	Marks	CO
(a)	What do you understand by image classification? Write short notes on EDM Equipment?	10	5
(b)	Derive the formulae for distance and elevation in the Tangential method?	10	2
(c)	What are object and fields based models? Differentiate between vector and raster data formats.	10	3
(d)	Describe the function of different parts of an aerial camera with the help of a neat sketch. Also differentiate between angle of tilt and angle of swing.	10	4
(e)	What are the different characteristics of Contours? Also explain the uses of contour maps.	10	1

SECTION C**3. Attempt any one part of the following:****10x1 = 10**

Q.no	Questions	Marks	CO
(a)	Explain different spectral classes. Discuss the process of supervised and unsupervised classification.	10	5
(b)	Give the classification of curves along with neat sketched of each?	10	2

4. Attempt any one part of the following:**10x1 = 10**

Q.no	Questions	Marks	CO
(a)	Explain Direct Method Contouring?	10	1
(b)	What do you understand by GPS? Explain the different sources of errors in GPS.	10	3



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5. Attempt any *one* part of the following:

10x1 = 10

Q.no	Questions	Marks	CO
(a)	Derive Parallax equations for determining elevation and ground coordinates of a point.	10	4
(b)	Explain briefly how GPS works to determine the position co-ordinates of a point.	10	5

6. Attempt any *one* part of the following:

10x1 = 10

Q.no	Questions	Marks	CO
(a)	Explain briefly the linear methods of setting out circular curves.	10	2
(b)	Explain briefly the temporary adjustments made in theodolite. Also write down the steps involved in method of repetition in theodolite.	10	1

7. Attempt any *one* part of the following:

10x1 = 10

Q.no	Questions	Marks	CO
(a)	Describe the different methods of measuring distance and state the various types of EDM instruments.	10	3
(b)	Derive parallax equations for determining elevation and ground coordinates of a point.	10	4