Name: Enrolment No:	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2018

Programme Name: B.Tech CSE OGI **Semester :** VII
Course Name : Photogrammetry: Remote Sensing, GIS and GPS **Time :** 03 hrs
Course Code : GSEG 304 **Max. Marks :** 100
Nos. of page(s) : 3
Instructions:

SECTION A

S. No.		Marks	CO
Q 1	An aircraft is flying at the altitude of **X** meter above a 150 feet high building, which is 2000 feet from sea level. In the two conjugate images, the difference between the top and bottom of the building from PP is 2.55" and 2.319" and the difference between the PP and CPP is 3.41". Find out the height of the aircraft.	**5**	**CO1**
Q 2	An object of height 17 meter is casting a shadow of 15 meters; calculate the angle made by the sun with the perpendicular to earth? Calculate the time of capturing the image?	**5**	**CO1**
Q 3	An aircraft is flying at the height of 8700 feet from sea level. What will be focal length of lens if the scale of the image captured is 1:2300	**5**	**CO1**
Q 4	Define Projection and illustrate which projection family is suited for capturing India? State the projection and datum of India?	**5**	**CO5**

SECTION B

Q 5	What is the purpose of designing NSDI? What are the various component of NSDI? **Or** What do you understand by "Urban Heat Island Effect"? What are the effects of UHIE on the thermal remote sensing?	**10**	**CO2**
Q 6	Describe density slicing? Explain the concept of contrast stretching for image enhancement?	**10**	**CO3**
Q 7	What do you understand by Radiometric and Geometric corrections? How geometric correction can be performed using Empirical Line Calibration?	**10**	**CO3**
Q 8	Analyze the various components of NavStar system and define how one can locate the location of any object	**10**	**CO4**

	SECTION-C		
Q 9	a) Elaborate the term by Remote Sensing? b) Illustrate Electromagnetic Signature with respect to plants and water? c) State different type of paths followed by EM radiation? d) Explain different component of Visual Image Interpretation?	**2,3,5,10**	**CO2**
Q 10	Design and develop a GIS model to monitor the spread of epidemic in a region? Explain various types of analysis that can be performed on this model? With respect to the above model explain **any one** of the following analysis:- a) Coverage Model **or** b) DEM Model	**20**	**CO5**

Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2018

Programme Name: B.Tech CSE OGI | **Semester :** VII
Course Name : Photogrammetry: Remote Sensing, GIS and GPS | **Time :** 03 hrs
Course Code : GSEG 304 | **Max. Marks :** 100
Nos. of page(s) : 3
Instructions:

SECTION A

S. No.		Marks	CO
Q 1	An aircraft is flying at the altitude of 10000 feet above a building, which is 2000 feet from sea level. In the two conjugate images, the difference between the top and bottom of the building from PP is 2.95" and 2.319" and the difference between the PP and CPP is 3.41". Find out the height of the building.	**5**	**CO1**
Q 2	Restate the importance of atmospheric windows?	**5**	**CO2**
Q 3	Explain with example the concept of urban heat island	**5**	**CO2**
Q 4	Define Stereo-pair Image? What is the purpose of stereo-pair?	**5**	**CO1**
	SECTION B		
Q 5	Define GPS? List various component of GPS system? What do you understand by WAAS?	**10**	**CO4**
Q 6	List the various elements of visual image interpretation. What do you understand by parallax and how it is useful in photogrammetry	**10**	**CO2**
Q 7	Define Mercator Projection? Infer the design of UTM grid?	**10**	**CO5**
Q 8	What are the various type of atmospheric interaction undergone by EM radiation? **Or** Define various method that can be used to correct atmospheric distortion?	**10**	**CO3**
	SECTION-C		
Q 9	a) Illustrate diurnal temperature cycle of material? b) Derive the scale of aerial photograph on inclined plane? c) Infer with example different components of any remote sensing system?	**10,5,5**	**CO1,CO2**
Q 10	a) Design and develop a GIS to model :- 1. Traffic in a region. **Or** 2. Starting new Water Treatment Plant.	**10,10**	**CO5**

	b) Explain advantage and disadvantage of the **any one** of following analysis:- 1. Raster Model **or** 2. Vector Model		