JHARKHAND Rai University
RANCHI

End Semester/Reappear (Semester V) Examination December, 2024

Programme:B.Tech (MiE)
Course: Remote Sensing & GIS **Full Marks: 70**
Course Code: 8PCCMiE306 **Time: 3 Hrs.**
Enrolment no. _____

Q.No.	Questions	CO	Bloom Taxonomy Category	Marks
Section I				
1	**Short Answer type questions.**			**4 x 5 = 20**
a	Classify the types of sensors used for remote sensing in India.	CO1	Understand	
	or			
	Comapre between Active and passive remote sensing.	CO1	Understand	
b	What is stereopairs? List out the types of stereopairs. Also mention the application of stereopairs.	CO2	Remember	
	or			
	What do you mean by relief displacement? Write the factors on which the relief displacement is dependent with proper equation.	CO2	Understand	
c	Enlist limitation of Stereopairs with their advantages and disadvantages.	CO4	Remember	
	or			
	Enlist the components of GIS with flow chart representation.	CO4	Remember	
d	Discuss the process of vertical photography, Oblique photography.	CO2	Understand	
	or			
	Explain Aerial photography in brief with proper diagram.	CO2	Understand	
Section II				
Long Answer type questions.				**3 x 10 = 30**
2	The length of displaced building is measured 2.01 mm and the radial distance to the principal point is 56.43 mm. If the flying height about the surface is 1220 m, what is the height of the building?	CO4	Evaluate	
	or			
	A line 2700 m lying at an elevation of 500 m. Measure 11.2 cm on a vertical photograph. The focal length of the camera is used is 20 cm. Determine the scale of photograph for an area having an elevation of 1500 m.	CO4	Evaluate	
3	Derive the equation for the scale of horizontal photograph. Tower of height 152 m is imaged as 5 mm in horizontal photogrammetry. Determine the distance of tower from camera, if the focal length of camera is 196 mm.	CO2	Evaluate	
	or			
	A line 2350 m lying at an elevation of 500 m. Measure 10.5 cm on a vertical photograph. The focal length of the camera is used is 20 cm. Determine the scale of photograph for an area having an elevation of 1200 m.	CO2	Evaluate	
4	Discuss Spectral Reflectance of soil, vegetation & water with proper graph.	CO1	Understand	
	or			
	What do you understand by electro-magnetic spectrum? State the wave length regions, along with their uses, for remote sensing applications.	CO1	Understand	
Section III				
	Application based questions.			
5	A tower lying on a flat area having an average elevation of 1000m above the MSL was photographed with the camera having focal length of 30 cm. The distance between the top and bottom of the tower is measured as 0.65 cm on the photograph. A line AB, 200 m on the ground measures 22.6 cm on the same photograph. Determine the height of the tower if the distance of the top tower is 10.68 cm from the principal point.	CO3	Evaluate	
	or			

	Two-point A and B having elevation of 650m and 250m respectively above datum appears on a vertical photograph obtained with the camera of focal length of 250mm.and flying altitude of 2700m above datum. Their corelated photographic coordinates are as follows: - Point photographic (x) in cm Coordinate (y) in cm a. xa= +3.65 ya= +2.54 b. xb= -2.25 yb= +5.59 Determine the length of ground line AB.	CO3	Evaluate	**1 x 20 = 20**

Course Outcome:

On the completion of the Course, the students will be able to:

CO1: Understand the basic knowledge of remote sensing & concept of EMR.

CO2: Apply the knowledge of Aerial photography and photogrammetry. -electromagnetic Radiation, Remote, Sensing Data Product, Spatial Filtering, Band Rationings Image Classification GIS-Project Planning, Management and Implementation.

CO3: Learners know about Basics of GIS -components of GIS, History, Geospatial data architecture, Operations, Geographic co-ordinate systems, Map projections etc.

CO4: Analyze the vector data & processing and applying the use of GIS