Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

END Semester Examination, May 2023

Programme Name: M.Sc., Petroleum Geoscience **Semester : II**
Course Name : Remote sensing and GIS **Time : 03 hrs.**
Course Code : PEGS-7034 **Max. Marks: 100**
Nos. of page(s) : 02
Instructions: In section A all the questions are compulsory and In section B and C internal choice in Q .9 a OR b, Q.10 i OR ii

SECTION A = 20 Marks

S. No.		Marks	CO
Q 1	Distinguish between the following terms: a) Polar orbit and Geosynchronous orbit b) Black body radiation and Infra-red radiation.	**4**	**CO2**
Q 2	Read the statement carefully and tick the correct answer (T or F) 1. The microstrip antenna is mostly used in GPS — T / F 2. The geoid is a horizontal datum tied to MSL — T / F 3. Protons are composed of two up and two down quarks. — T / F 4. The radio frequency region is a part of sun radiation source. — T / F	**4**	**CO1**
Q 3	Discuss in brief the role and significance of the following terms in RS & GIS. A) Datum B) Latitude and Longitude	**4**	**CO2**
Q.4	Fill in the blanks with a suitable answer. I. The effect of grain size on reflection is maximum in the ……. regions of the spectrum. II. The electromagnetic radiation produces a time varying …….in field. III. The ….. is the length of the crest from the mid-point in wave frequency measurement. IV. The…..radiations emits power of every wavelength.	**4**	**CO2**
Q 5	Choose and tick the correct answer for the following MCQ 1. The basic requirements of any sensors system depend upon……. a) Signals b) Resolutions c) Both A & B 2. The transitional layer between two adjoining horizons is called as….. a) Boundary b) Relief c) None of these 3. The topology of the image describes……. a) Shape b) Size c) Both A & B 4. The reflectance waves of a vegetation canopy determine….. a) Geometry b) Temperature c) None of these	**4**	**CO1**

SECTION B = 40 Marks			
Q 6	Describe the VIBGYOR, Electromagnetic wavelength and channel characteristic and its application in remote sensing image analysis	**10**	**CO3**
Q 7	Explain Aerial Photography and basic terminologies used in aerial photography analysis in context with remote sensing and GIS.	**10**	**CO3**
Q.8	Describe the following term's role and significance in context remote sensing and GIS. I)BSQ ii) BIN iii) BIT and iv) BIL	**10**	**CO4**
Q 9	a) Describe the classification of following terms in context with application aerial photographic interpretation. a) aerial cameras, b) Aerial films and Basic color theory. **OR** b) Explain in brief merit and demerits of following terms in context with remote sensing image processing. I) Radiometric correction ii) Geometric correction, iii) False color vs True color and d) analog vs digital.	10	**CO4**
SECTION-C = 40 Marks			
Q 10	i) Describe in brief the following terms analysis is most significance and essential part during different remote sensing Interpretation and image categorization. a) Georeferencing b) Geocoding c) DEM and d) NDVI **OR** **ii) Analyze** the following terms significance in context with photogrammetry and aerial photographic processes. A) types of aerial photographs b) Stereoscope vs stereopairs c) Parallax d) Photo scale and e) orthorectification.	**20**	**CO5**
Q.11	a) Explain in brief the background, advantage, and disadvantage of LIDAR and RADAR in microwave remote sensing. b) Describe in brief the principle, merits and demerits of GPS in context with remote sensing and GIS.	**20**	**CO6**