1711E1307

Candidate's Seat No :_____

M.Sc. Sem.-3 Examination

504

Geo-Informatics (EB-Agriculture)

November-2025

Time : 2-30 Hours] **[Max. Marks : 70**

Instructions:

Q-I	**A** define abaxial, adaxial, proximal, distal, stalk, petiolule, trifoliate, palmate, pinnate and frond. Provide the complete electromagnetic spectrum with labelling	7
	B define biomass and write a note on the role of remote sensing in biomass estimation	7

or

Q-I	**A** explain with diagram and labelling how remote sensing works in agriculture and write a note on the advantages of remote sensing in agriculture management	7
	B write a detailed note on the role of remote sensing in studying leaf morphology. Provide the diagram for the leaf morphology with labelling	7

Q-II	**A** write a note on the leaf adaptations for the process of photosynthesis. Provide figure of different leaf types with label	7
	B write a detailed note on the role of remote sensing in forest inventory and mapping	7

or

Q-II	**A** write a detailed note on the impact (positive and negative) of water and soil conditions on agriculture. Minimum 10 points for each	7
	B write a note on the role of remote sensing in wildfire detection and management and provide the figure on the interaction of light with different targets	7

Q-III	**A** describe the characteristics of taiga, temperate and tropical biomes. Write a short note on the role of mangroves in coastal regions	7
	B define and write a note on the significance of biodiversity characterization	7

or

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Q-III	**A** define risk zonation and write a detailed note on the natural causes of forest fires (explain with any 4 reasons)	7
	B write a detailed note on the impact of climatic changes on agriculture	7

Q IV	A write a note on the challenges of remote sensing in forestry. Provide the diagram of basic remote sensing process, with labelling	7
	B write a detailed note on the impact of excessive inundation and drought on crop health. State any 5 advantages of remote sensing in crop health monitoring	7

or

Q -IV	A define Linnaeus classification and write a detailed note on its significance in forestry	7
	B. define watershed and write a note on the hydrological impacts of watershed on agriculture	7

Q-V	MCQs attempt any seven out of twelve	14

1) **Diagrammatically show the dorsal and ventral parts of a simple leaf**
2) **Provide the full form of SeaWiFS**
3) **define tropical forests and state the regions covering it**
4) **Define parenchyma and bundle sheath**
5) **Name the space borne, air borne and ground based remote sensing platforms (two examples on each)**
6) **Provide the cross sectional figure of leaf anatomy with label**
7) **State the pigment/pigments responsible for the red and purple hues**
8) **Provide the full form of ASTER**
9) **Define dicots and monocots**
10) **Define bioturbation**
11) **Show with figures specular and diffused reflection**
12) **State the difference between coniferous and deciduous forests**

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