Fourth year of Five Years integrated M.Sc (Physics)
M.Sc. – IV, Semester – VIII

		L	T	P	C
MP 456 :	**Remote Sensing: Fundamentals and Applications**	**3**	**0**	**0**	**3**

- **CONCEPTS AND FOUNDATIONS OF REMOTE SENSING** **(06 Hours)**
  Energy sources and Radiation principles, Energy interactions in the atmosphere, energy interactions with earth surface features, Data acquisition and Interpretations, Reference data, The Global Positioning System An ideal remote sensing system, Characteristics of real remote sensing system,
- **ELEMENTS OF PHOTOGRAPHIC SYSTEMS** **(06 Hours)**
  Early history of Aerial photography, Basic negative to positive photographic sequence, Film exposure, Film density and characteristic curves, structure & Spectral sensitivity of black and white, color and color infrared films, film resolution, Aerial cameras, filters, electronic imaging, multiband imaging
- **REMOTE SENSING SYSTEMS AND SENSORS** **(06 Hours)**
  Satellite borne systems, direct remote sensing, indirect remote sensing
- **IMAGE PROCESSING FUNDAMENTALS** **(06 Hours)**
  Introduction, Image rectification and restoration, Image enhancement, contrast manipulation, spatial feature manipulation, image classification, different classification schemes, Classification accuracy assessment, Image transmission and compression
- **EVOLUTION OF INTERNATIONAL REMOTE SENSING** **(06 Hours)**
  .Radars and other international satellite systems
- **INDIAN REMOTE SENSING PROGRAMME** **(06 Hours)**
  Development of IRS sytem and its components, role and importance of remote sensing
- **APPLICATIONS OF REMOTE SENSING** **(06 Hours)**
  Applications in (i) agriculture, (ii) Forestry, (iii) vegetation, and (iv) oceanography

(Total Contact Time (Theory) : 42 Hours)

BOOKS RECOMMENDED :

1.	**Campbell J. B.**	*Introduction to Remote Sensing*	Taylor and Francis	1996
2.	**Kumar M.**	*Remote Sensing*	NCERT	2001
3.	**Lilesand T.M. & Keifer R.W.**	*Remote Sensing and Image interpretation*	John Wiley & Sons	2002
4.	**Joseph G.**	*Fundamentals of Remote Sensing*	University Press	2004
5.	**Wolf P.R.**	*Elements of Photography*	Mc-Graw Hill	1974