

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF Military Science/ Defence Studies

COURSE CURRICULUM

PART- A: Introduction			
Program: Bachelor in Science /Art (Certificate / Diploma / Degree/ Honors)		Semester –	Session:
1	Course Code	DSSE -02T	
2	Course Title	Remote Sensing and National Defence	
3	Course Type	Theory	
4	Pre-requisite (if, any)	As per requirement	
5	Course Learning Outcomes (CLO)	After undergoing this course a student will be in a position to – • Significance of Remote Sensing for National Defence. • Build capacity on the technical arena of remote sensing application to National Security and impart knowledge on benefits and pitfalls. • Students will also get the feel of various remote sensing equipments.	
6	Credit Value	3 Credits	Credit =15 Hours Study, Learning & Observation
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40

PART -B: Content of the Course

Total No. of learning-Training/performance Periods: 60 Periods (60 Hours)

Module	Topics (Course contents)	No. of Periods
Unit 1	Significance of Remote Sensing for National Defence.	15
Unit 2	Remote Sensing: Basic principles of remote sensing; aerial photography definition, scope, application.	15
Unit 3	Concept of remote sensing: Generation of electromagnetic radiation; imaging system; interaction with atmospheres and Earth surface; sensing platform sensor system.	15
Unit 4	Photogrammetry and its significance in remote sensing: Steps of image interpretations; image displacement, orientation etc.	15
Keywords	Remote Sensing, National Defence, Aerial photography, Atmospheres, Photogrammetry	

Signature of Convener & Members (CBoS) :

PART-C: Learning Resources

Text Books, Reference Books and Others

- S. Agarwal and P. K. Garg , (2002) Textbook on Remote Sensing, A.H Wheeler Publishing.
- Cracknell A.P. (1990) Introduction to Remote Sensing, Taylor& Francis, London.
- Curran, P.J. (1985) Principles of Remote Sensing, Longman, London.
- Lueder, D.R., 1959 Aerial Photographic Interpretation, McGraw-Hill, New York.
- Thomas M. Lilles and, Ralph W. Kiefer and Jonathan W. Chipman, (2015) Remote Sensing and Image Interpretation 7 th edition, Wiley.

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Online Resources–

Ministry of Defence - <https://mod.gov.in>,
SWAYAM - <https://swayam.gov.in/>
SWAYAM PRABHA - <https://swayamprabha.gov.in/>
NIOS - <https://nios.ac.in/online-course-material/>

PART -D: Assessment and Evaluation**Suggested Continuous Evaluation Methods:**

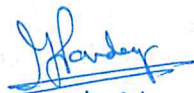
Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 20 & 20 Assignment/Seminar +Attendance - 10 Total Marks - 30	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks
End Semester Exam (ESE):	Two section – A & B Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks Section B: Descriptive answer type qts., 1out of 2 from each unit-4x10=40 Marks	

Name and Signature of Convener & Members of CBoS:


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DEPARTMENT OF Military Science/ Defence Studies

COURSE CURRICULUM

PART- A: Introduction			
Program: Bachelor in Science /Art (Certificate / Diploma / Degree/ Honors)		Semester –	Session:
1	Course Code	DSSC -02P	
2	Course Title	Map Reading - II	
3	Course Type	Practical	
4	Pre-requisite (if, any)	As per requirement	
5	Course Learning Outcomes (CLO)	After undergoing this course a student will be in a position to – 1. Clearly understand the practical use of Types of North and finding out True North . 2. Know the Methods of representing Scale. 3. Preparing Students for Presentation/ lecture	
6	Credit Value	1 Credits	Credit =30 Hours Laboratory or Field learning/Training
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20
PART -B: Content of the Course			
Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)			
Module	Topics (Course contents)		No. of Period
Lab./Field Training/ Experiment Contents of Course	• Find True North: Types of North and finding out True North; The Pole Star Method; The equal altitude method; Watch method & Compass method. • Scale: Definition, Methods of representing Scale: Inter-conversion of scale into Representative Fraction, construction of simple scale line and the comparative scale lines. • SHORT PRESENTATION/ LECTURE		30
Keywords	True North, Pole Star, Equal altitude method, Scale, Compass		

Signature of Convener & Members (CBoS) :

PART-C: Learning Resources

Text Books, Reference Books and Others	
1. M.P.Verma	: Sainik manchitra vigyan
2. Y.K. Sharma	: Map reading
3. Balwant Singh	: An easy approach to map reading
4. Gale and Porden	: A complete guide to military map reading
5. J.M. Srivastava	: Practical military science part 1
6. B.N. Maliwal	: Military science practical
Online Resources–	
Ministry of Defence	- https://mod.gov.in ,
SWAYAM	- https://swayam.gov.in/
SWAYAM PRABHA	- https://swayamprabha.gov.in/
NIOS	- https://nios.ac.in/online-course-material/

PART -D: Assessment and Evaluation

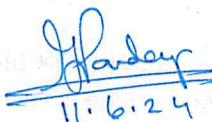
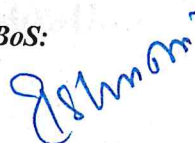
Suggested Continuous Evaluation Methods:

Maximum Marks:

50 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment BB. Performed the Task based on lab. work - 20 Marks CC. Spotting based on tools & technology (written) – 10 Marks DD. Viva-voce (based on principle/technology) - 05 Marks	Managed by Course teacher as per lab. status

Name and Signature of Convener & Members of CBoS:


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