Register Number:……..

KUMARAGURU
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M.TECH DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 18)

Second Semester

DEFENCE TECHNOLOGY

P18DTT2019**:** Tactical battlefield Communication & Electronic Warfare

COURSE OUTCOMES

CO1: Understand the nature of tactical battlefield communication
CO2: Calculate communication link performance
CO3: Calculate the requirements for interception of tactical communication
CO4: Calculate the requirements for emitter location, intercept and jamming of tactical communication signals including weapon control link, UAV links, Cell phone links
CO5: Use various tools to perform electronic warfare calculations

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions: -
(5x20 = 100 Marks)

Q.No	Questions	Marks	CO	K_L
Q1A.	What are two basic types of ESM (Electronic Support Measures)?	4	CO1	K_1
Q1B.	What are the set of actions that defines Electronic Warfare?	6	CO1	K_1
Q1C.	What is the only parameter which a hostile emitter cannot change easily? Describe in detail, with a neat diagram the technique of measurement of Angle of Arrival by amplitude comparison method.	10	CO3	K_2
Q2A.	Define sensitivity of a receiver. Why high sensitivity is required in a receiver?	4	CO2	K_3
Q2B.	What are the three important ways through which the Electronic Counter measures can be implemented?	6	CO4	K_1
Q2C.	What is Cross-eye jamming? With a suitable diagram explain the technique involved in cross-eye jamming to ensure that the monopulse radar antenna never achieves a null position or tracking solution.	10	CO4	K_4
Q3A.	Write briefly about Communication DF by Angle Measurement Technique?	4	CO2	K_3
Q3B.	What are different types of UAVs? Write any 3 Applications of UAVs.	6	CO4	K_5
Q3C.	Write about Airborne Intercept System with a block diagram and a typical problem.	10	CO3	K_3
Q4A.	Write any 4 typical specifications of V/UHF Search Receiver.	4	CO3	K_2

Q4B.	Write a brief note on TDOA and FDOA.	6	CO2	K_1
Q4C.	Indicate block diagrams of Intercept of Frequency Hopper, Chirp Intercept system with Delayed Channel and Communication JAMMING GEOMETRY with a small write -up	10	CO5	K_2
Q5A.	Write a short note on STAND–IN–JAMMING and PULSE JAMMING.	4	CO5	K_1
Q5B.	Explain Triangulation features with block diagram.	6	CO2	K_4
Q5C.	Write elaborately about UP-LINK JAMMING/ DOWN- LINK JAMMING of Cell phones with typical values of Parameters.	10	CO5	K_6

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