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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech IV Year II Semester Advanced Supplementary Examinations September-2021

RADAR & NAVIGATIONAL AIDS

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

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|---|---|----|----|
| 1 | a Briefly explain few applications of Radar. | L2 | 4M |
| | b What is minimum detectable signal and explain how is it used in radar system. | L1 | 4M |
| | c Give the three different forms of the radar equation. | L1 | 4M |

OR

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|---|--|----|----|
| 2 | a Write short notes on radar transmitter power. | L1 | 6M |
| | b Explain the limiting losses and beam shape losses in radar system. | L2 | 6M |

UNIT-II

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|---|--|----|----|
| 3 | a Describe the two Radar modulators for high power transmission. | L1 | 6M |
| | b Explain the cross-field amplifier with a neat sketch. | L1 | 6M |

OR

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|---|---|----|----|
| 4 | a Define conversion loss and Noise figure. | L1 | 4M |
| | b What is the solid state duplexer and explain its operation? | L1 | 8M |

UNIT-III

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|---|---|----|----|
| 5 | a Explain about sequential lobbing with a neat diagram. | L2 | 6M |
| | b Explain in detail about pulse repetition frequencies. | L2 | 6M |

OR

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|---|--|----|----|
| 6 | a Explain MTI radar with a neat block diagram. | L2 | 6M |
| | b Write short notes on delay line cancellers. | L1 | 6M |

UNIT-IV

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|---|---|----|----|
| 7 | a What is the role of goniometer and give its working principle. | L1 | 6M |
| | b Write short notes on the polarization errors in direction findings. | L1 | 6M |

OR

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|---|---|----|----|
| 8 | a Explain the site and instrumental errors in direction findings. | L1 | 6M |
| | b Explain about the VOR receiving equipment. | L1 | 6M |

UNIT-V

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|---|--|----|----|
| 9 | a Give the importance of Loran – A and Loran –B system. | L1 | 6M |
| | b What is meant by DME and how it is operated in the navigation? | L1 | 6M |

OR

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|----|--|----|----|
| 10 | a Give the importance of the DECCA navigation systems. | L2 | 6M |
| | b How the TACAN STACAN equipment used to navigate the RADAR? | L3 | 6M |

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