

Reg. No:

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

B.Tech IV Year II Semester Supplementary Examinations May-2022

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 | Explain the operation of radar with neat block diagram. | L1 | 6M |
| | b | Explain modified radar range equation. | L2 | 6M |

OR

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|---|---|---|----|----|
| 2 | a | Derive the receiver noise of the radar system. | L2 | 6M |
| | b | What is minimum detectable signal and explain how is it used in radar system. | L1 | 6M |

UNIT-II

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|---|---|--|----|----|
| 3 | a | Describe the two Radar modulators for high power transmission. | L1 | 6M |
| | b | Give the importance of noise figure in Radar system. | L1 | 6M |

OR

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|---|---|---|----|----|
| 4 | a | What is the solid-state duplexer and explain its operation? | L1 | 6M |
| | b | Give the importance of conversion loss in Radar system. | L1 | 6M |

UNIT-III

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|---|---|--|----|----|
| 5 | a | Draw and explain about simple CW radar. | L1 | 6M |
| | b | Differentiate the MTI Radar and CW Radar system. | L1 | 6M |

OR

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|---|---|---|----|----|
| 6 | a | Explain MTI radar with a neat block diagram. | L1 | 6M |
| | b | Explain with a neat block diagram of conical scan tracking radar. | L2 | 6M |

UNIT-IV

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|---|---|--|----|----|
| 7 | a | Explain the polarization errors in direction findings. | L1 | 6M |
| | b | Explain about the loop antenna with suitable expression. | | 6M |

OR

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|---|---|---|----|----|
| 8 | a | Explain the site and instrumental errors in direction findings. | L1 | 6M |
| | b | Describe in briefly the LF four course radio ranges are used to detect the errors in the RADAR? | L1 | 6M |

UNIT-V

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|---|---|---|----|----|
| 9 | a | Give the importance of Loran – A and Loran –B system. | L1 | 6M |
| | b | Explain about the DECCA navigation system. | L1 | 6M |

OR

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|----|---|--|----|----|
| 10 | a | How the TACAN STACAN equipment used to navigate the RADAR? | L3 | 6M |
| | b | Define the hyperbolic system of navigation and give its working principle. | L2 | 6M |

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