Lesson Plan

Name of the Faculty : Dr. N. K Arora

Discipline : Electronics and Communication Engg.

Semester : 6th

Subject : WIRELESS AND MOBILE COMMUNICATION

Lesson Plan Duration : Feb 2024 – J u ne 2 0 24

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| **Week** | **Theory** | **Practical** |
| **Lecture****day** | **Topic (including assignment/ test)** | **Topic** |
| **1st** | **1** | Introduction about Subject | Introduction about Practical WIRELESS AND MOBILE COMMUNICATION |
| **2** | Wireless Communication Basics |
| **3** | Advantages of wireless communication |
| **4** | Electromagnetic waves |
| **2nd** | **5** | Basic of Frequency Spectrum used | Study the features, specification and working of cellular mobile |
| **6** | Paging system |
| **7** | Cordless Telephone System |
| **8** | Cellular Telephone System |
| **3rd** | **9** | Cellular Telephone System | Signal strength measurement of various points from a transmitting antenna/cordless phone |
| **10** | Comparison of above wireless communication systems |
| **11** | Cellular telephone system: |
| **12** | Introduction to First Generation |
| **4th** | **13** | Introduction to Second Generation | Signal strength measurement of various points from a transmitting antenna/cordless phone |
| **14** | Introduction to Third Generation |
| **15** | Introduction to Fourth Generation of cellular telephone system |
| **16** | Introduction to Fourth Generation of cellular telephone system |
| **5th** | **17** | REVISION | Visit of a Mobile Switching Centre(MSC) in the nearestM.S. facility provider |
| **18** | REVISION |
| **19** | REVISION |
| **20** | **1st Sessional Test** |
| **6th** | **21** | Cellular Concept | Visit of a Mobile Switching Centre(MSC) in the nearestM.S. facility provider |
| **22** | Cell area |
| **23** | Capacity of cell |
| **24** | Frequency Response |
| **7th** | **25** | Co-channel Interference | Demonstration of Base Trans Receiver(BTS) withnearby cellular tower |
| **26** | Adjacent channel Interference |
| **27** | Power Control for reducing Interference |
| **28** | Improving coverage and capacity in cellular system,Cell Splitting,Sectoring |

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| **8th** | **29** | Repeater for Range Extension | Demonstration of Base Trans Receiver(BTS) with nearby cellular tower |
| **30** | Multiple Access Techniques for Wireless Communication |
| **31** | Introduction to Multiple Accesses. |
| **32** | Frequency Division Multiple Access (FDMA) |
| **9th** | **33** | Time Division Multiple Access (TDMA) | Observing call processing of GSM trainer Kit |
| **34** | Code Division Multiple Access (CDMA) |
| **35** | Spread Spectrum Multiple Access (SSMA) |
| **36** | Frequency Hopping spread Spectrum (FHSS) |
| **10th** | **37** | Comparison of FDMA/TDMA/CDMA | Observing call processing of GSM trainer Kit |
| **38** | REVISION |
| **39** | REVISION |
| **40** | **2nd Sessional Test** |
| **11th** | **41** | Mobile Communication Systems | Observing call processing of CDMA trainer Kit |
| **42** | Introduction of Global Systems for Mobile Communication (GSM) and its architecture, |
| **43** | Introduction of Global Systems for Mobile Communication (GSM) and its architecture, |
| **44** | Introduction of CDMA System, comparison of CDMA and GSM Systems |
| **12th** | **45** | Introduction of GPRS System. | Pairing of two devices using Bluetooth |
| **46** | Introduction of GPS System. |
| **47** | Introduction to Blue tooth, |
| **48** | Introduction to Wi-Fi |
| **13th** | **49** | Digital and Data Communication | Data transfer using WI-FI |
| **50** | Basic block diagram of digital and data communication system. |
| **51** | Basic block diagram of digital and data communication system. |
| **52** | Basic block diagram of digital and data communication system. |
| **14th** | **53** | Basic block diagram of digital and data communication system. | Revision & Viva |
| **54** | REVISION |
| **55** | REVISION |
| **56** | REVISION |
| **15th** | **57** | REVISION | Revision & Viva |
| **58** | REVISION |
| **59** | REVISION |
| **60** | **3rd Sessional Test** |

**\* At least Three Assignment covering substantial portion of syllabus to be given.**