Govt. Polytechnic Loharu Electronics and Communication Engineering esson plan

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|  | **NAME OF FACULTY** | **:** | **Revti Raman** |
|  | **DISCIPLIN E** |  | **:** | **Electronics and Communication Engg.** |
|  | **SEMESTER** |  | **:** |  |
|  |  | **5th** |
|  | **SUBJECT** |  | **:**  |
|  | **LESSON PLAN DURATION:** | **15 weeks** |
|  | **WORK LOAD (LECTURE/ PRACTICAL): LECTURES - 03 , PRACTICALS – 03** |

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| Week | Theory | Practical |
|  | Lect ure day | Topic | Pra ctic al Peri od | Topic |
| 1 | 1 | WirelessCommunication Basics | 1 | Studythefeatures,specification and working of cellular mobile |
| 2 | Advantagesofwireless communication | 2 |
| 3 | Electromagnetic waves. FrequencySpectrumused. | 3 |
| 4 | CellularNetworkSystems. |
| 2 | 1 | CellularNetworkSystems. | 1 | Studythefeatures,specification and working of cellular mobile |
| 2 | Propagationconsiderations1. Range
2. AtmosphericEffect
 | 2 |
| 3 | Propagationconsiderations1. GeographicEffect
2. Fading
 | 3 |
| 4 | Propagationconsiderations1. Doppler Effect
2. MultipathEffect
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| 3 | 1 | Introductionto1Gand2G | 1 | 2.Tostudythecellprocessing using CDMA trainer kit. |
| 2 | Cell area | 2 |
| 3 | CellSiteStructure | 3 |
| 4 | Capacity of cell |  |  |
| 4 | 1 | FrequencyReuse(Concept) | 1 | 3.Observingcallprocessingof GSM trainer kit. |
| 2 | Interference(Co-channel,Adjacentchannel) | 2 |
| 3 | PowerControlforreducing Interference | 3 |
| 4 | Fundamentalsofcellularnetwork planning1. Coverageplanning
2. Capacity planning
3. Cellsplittingandsectoring
 |
| 5 | 1 | revision | 1 | REVISION/VIVA |
| 2 | Multiple Access Techniques for Wireless Communication,Introduction to Multiple Access. | 2 |
| 3 | FrequencyDivisionMultipleAccess (FDMA) | 3 |
| 4 | TimeDivisionMultipleAccess(TDMA) Distinction between TDMA FDD and TDMA TDD3.5CodeDivisionMultipleAccess (CDMA), WCDMA |
| 6 | 1 | * DistinctionbetweenTDMA FDD and TDMA TDD
* 3.5CodeDivisionMultiple Access (CDMA), WCDMA
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 | 1 | 4. Demonstration of Base Trans Receiver(BTS)withnearbycellular tower. |
| 2 | - CodeDivisionMultipleAccess (CDMA)- | 2 |
| 3 | - ,WCDMA- | 3 |
| 4 | Revision |
| 7 | 1 | Revision | 1 | 4. Demonstration of Base Trans Receiver(BTS)withnearbycellular tower. |
| 2 | 4.1.IntroductionofGlobalSystemsforMobileCommunication(GSM)andits | 2 |
| 3 | Communication(GSM)andits architecture, | 3 |

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|  | 4 | IntroductionofCDMA System, |  |  |
| 8 | 1 | comparisonof CDMAand GSMSystems | 1 | 5.Demonstrationofdatatransfer using Bluetooth. |
| 2 | IntroductionofGPRS | 2 |
| 3 | IntroductionofEDGE | 3 |
| 4 | IntroductionofBluetooth |
| 9 | 1 | IntroductionofWi-fi. | 1 | REVISION/VIVA |
| 2 | REVISION | 2 |
| 3 | IntroductiontoArchitectureand Features of UMTS | 3 |
| 4 | IntroductiontoArchitectureand Features of UMTS |
| 11 | 1 | HSPA(HighSpeedPacketAccess ). | 1 | 6.TosetupaWi-finetwork. |
| 2 | HSPA(HighSpeedPacketAccess ). | 2 |
| 3 | FeaturesandArchitectureofLTE(LongTermEvolution). | 3 |
| 4 | FeaturesandArchitectureofLTE(Long Term Evolution). |
| 12 | 1 | TroubleshootingGSMMobilePhone | 1 | 7.TostudyfaultsonaGSMmobile trainer. |
| 2 | AssemblinganddissemblingofGSM phone | 2 |
| 3 | AssemblinganddissemblingofGSM phone | 3 |
| 4 | Study parts of Mobile Phone |
| 13 | 1 | Study parts of Mobile Phone | 1 | 7.TostudyfaultsonaGSMmobile trainer. |
| 2 | Testingofvariousparts | 2 |
| 3 | Testingofvariousparts | 3 |
| 4 | REVISION/TEST |
| 14 | 1 | REVISION/TEST | 1 | 8. Visit to Mobile Switching Centre. |
| 2 | REVISION/TEST | 2 |

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|  | 3 | REVISION/TEST | 3 |  |
| 4 | REVISION/TEST |
| 15 | 1 | REVISION/TEST | 1 | Revision/Vivavoce |
| 2 | REVISION/TEST | 2 |
| 3 | REVISION/TEST | 3 |
| 4 | REVISION/TEST |

SESSIONALTESTCONDUCTEDASPERHSBTETIME TABLE/SYLLABUS