**UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA**

**Academic Lesson Plan for summer semester- 2022**

**Name of the teaching faculty: Barsarani Misra Department: Electrical Engineering**

**Semester: 4th Subject: EI&E**

**No. of periods per week: 4 Total Periods: 60**

**End semester exam: 80 Class test: 20**

**Total Marks: 100**

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| Sl. No. | Week | Period | Unit/Chapter | Topic to be Covered |
| **1.** | **1st** | **1st** | P-N JUNCTION DIODE | P-N Junction Diode and its working |
| **2.** | **2nd** |  | V-I characteristic of PN junction Diode |
| **3.** | **3rd** |  | Important terms such as Ideal Diode, Knee voltage |
| **4.** | **4th** |  | Zener breakdown and Avalanche breakdown |
| **5** | **2nd** | **1st** |  | P-N Diode clipping Circuit. |
| **6** | **2nd** |  | P-N Diode clamping Circuit |
| **7** | **3rd** | TUTORIAL CUM DOUBT CLEAR CLASS | Objective question related to P-N junction diode |
| **8** | **4th** | SPECIAL SEMICONDUCTOR DEVICES | Thermistors |
| **9** | **3rd** | **1st** |  | Zener Diode |
| **10** | **2nd** |  | Tunnel Diode |
| **11.** | **3rd** |  | PIN Diode |
| **12.** | **4th** | TUTORIAL CUM DOUBT CLEAR CLASS | Objective question related to special semiconductor devices |
| **13** | **4th** | **1st** | RECTIFIER CIRCUITS & FILTERS | Classification of rectifiers |
| **14.** | **2nd** |  | Analysis of half wave rectifiers |
| **15.** | **3rd** |  | Analysis of full center tapped rectifiers |
| **16.** | 4TH  |  | Analysis of Bridge rectifiers |
| **17.** | **5th** | **1st** |  | Calculation of DC output current and voltage |
| **18.** | **2nd** |  | RMS value, Rectifier efficiency, Ripple factor |
| **19.** | **3rd** |  | Filter |
| **20.** | **4th** | TUTORIAL CUM DOUBT CLEAR CLASS | Objective question related to rectifier circuit and filter |
| **21.** | **6th** | **1st** | TRANSISTORS | Principle of Bipolar junction transistor |
| **22.** | **2nd** |  | Different modes of operation of transistor |
| **23.** | **3rd** |  |  Current components in a transistor |
| **24.** | **4th** |  | Transistor as an amplifier |
| **25.** | **7th** | **1st** |  | Transistor circuit configuration & its characteristics |
| **26.** | **2nd** | TUTORIAL CUM DOUBT CLEAR CLASS | Objective question related to Transistor  |
| **27.** | **3rd** | TRANSISTOR CIRCUITS | Transistor biasing |
| **28.** | **4th** |  |  Stabilization and Stability factor |
| **29.** | **8th** | **1st** |  | Different method of Transistors Biasing |
| **30.** | **2nd** |  | Do |
| **31.** | **3rd** | TUTORIAL CUM DOUBT CLEAR CLASS | Objective question related to Transistor circuit |
| 32. | 4th | TRANSISTOR AMPLIFIERS & OSCILLATORS | Practical circuit of transistor amplifier |
| 33. | 9th | 1st |  | DC load line and DC equivalent circuit |
| 34. | 2nd |  | AC load line and AC equivalent circuit |
| 35. | 3rd |  | H-parameters of transistors |
| 36. | 4th |  | Analysis of CB, CE, CC amplifier using generalized approximate model |
| 37. | 10th | 1st |  | Multi stage transistor amplifier |
| 38. | 2nd |  | R.C. coupled amplifier and Transformer coupled amplifier |
| 39. | 3rd |  | Feed back in amplifier |
| 40 | 4th |  | Power amplifier and its classification |
| 41. | 11th | 1st |  | Difference between voltage amplifier and power amplifier |
| 42. | 2nd |  | Class A push – pull amplifier and Class B push – pull amplifier |
| 43. | 3rd |  | Oscillators and Types of oscillators |
| 44. | 4th |  | Principle of operation of different oscillator |
| 45. | 12th | 1st | TUTORIAL CUM DOUBT CLEAR CLASS | Objective question |
| 46. | 2nd | FIELD EFFECT TRANSISTOR | Classification of FET |
| 47. | 3rd |  | Advantages of FET over BJT |
| 48. | 4th |  | Principle of operation of BJT |
| 49. | 13th | 1st |  | FET parameters |
| 50. | 2nd |  | DC drain resistance , AC drain resistance and Trans-conductance |
| 51. | 3rd |  | Biasing of FET |
| 52. | 4th | TUTORIAL CUM DOUBT CLEAR CLASS | Objective question |
| 53. | 14th | 1st | OPERATIONAL AMPLIFIERS | General circuit simple of OP-AMP and its amplifier stages |
| 54. | 2nd |  | Equivalent circuit of operational amplifier |
| 55. | 3rd |  | Open loop OP-AMP configuration |
| 56. | 4th |  | OPAMP with fed back 8.6 Inverting OP-AMP and Non inverting OP-AMP |
| 57. | 15th | 1st |  | Do |
| 58. | 2nd |  | Differential amplifier |
| 59. | 3rd |  | Do |
| 60. | 4th | **TUTORIAL CUM DOUBT CLEAR CLASS** | Objective question |

The lesson plan prepared **by the concerned faculty**