[Total No. of Questions: 2] Seat No [Total No of Pages: 1]

G. H. Raisoni of Engineering and Management, Pune.

(An Autonomous Institution)

F. Y. B .Tech (Term- I)

CAE II- 2020(2020 Pattern)

Introduction to Discrete Devices (UECL105)

**[Time: 1 Hours]** **[Max. Marks: 15]**

***Course Outcome***

***CO1: Relate operation of diodes, types of diodes and their role in design of simple electronic applications.***

***CO2: Develop the capability to analyze and design simple circuits containing non-linear elements such as transistors using the concepts of load lines, operating points for various biasing methods. CO3: Classify Power amplifiers, Oscillators & Display Devices.***

***CO4: Interpret the operation of the Field Effect Transistor (FET), Metal Oxide Semiconductor Field Effect Transistor (MOSFET) and design FET circuits***

***CO5: Demonstrate familiarity with basic electronic components and use them to design simple electronic circuits.***

Instructions to the candidates:

1. All questions compulsory
2. Neat diagrams must be drawn wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data, if necessary.

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| |  |  |  |  | | --- | --- | --- | --- | | CO2 | a) | What is BJT and explain its different types with symbol and structure. | [3] | |  | b) | Design single stage CE amplifier and explain in details. | [5] | | CO3 | a) | Explain the following terms in details   1. Gain of BJT 2. Stability factor 3. Need of Stabilization | [3] | |  | b) | Define DC load line with proper circuit diagram and explain Q-Point. | [4] |   \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*All the best\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |  |  |  |