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**4216****BOARD DIPLOMA EXAMINATION, (C-14)****MARCH /APRIL-2019****DAEIE - THIRD SEMESTER EXAMINATION****ELECTRONIC DEVICES AND APPLICATIONS**

Time: 3 Hours ]

[Max. Marks : 80

**PART-A****10x3=30**

**Instructions:** 1) Answer **all** the questions. Each question carries **three** marks.

2) Answers should be brief and straight to the point and shall not exceed five simple sentences.

- 1) Sketch the energy level diagram of Semiconductor.
- 2) List any three applications of diode.
- 3) Draw the circuit of a clamper using diode.
- 4) Draw the circuit symbols of PNP and NPN transistors.
- 5) Define beta factor (Current amplification factor).
- 6) List any three application of FET.
- 7) List the types of MOSFETS.
- 8) Sketch the ISI circuit symbols of GTO, DIAC and SUS.
- 9) Draw the volt-ampere characteristics of TRIAC.
- 10) List any three types of ICs based on integration.

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**PART-B**

**5x10=50M**

**Instructions:** 1) Answer any **five** questions. Each question carries **ten** marks.

2) Answers should be comprehensive and the criterion for valuation is the content but not the length of answer.

- 11) Describe the formation and working of Zener diode.
- 12) Explain the working principle of Tunnel diode and list any three applications of it.
- 13) (a) Distinguish between Zener breakdown and Avalanche breakdown.  
(b) List any five applications of Operational amplifier.
- 14) Draw and explain the Common Emitter configuration of a transistor and also draw its output characteristics.
- 15) Explain the working of NPN Transistors.
- 16) Explain the working principle of UJT and draw its characteristics.
- 17) Explain the working of SCR with its volt ampere characteristics.
- 18) Explain the construction and working of DIAC with its volt ampere characteristics.

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