

1491**Code : 15EE33T**Register
Number

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III Semester Diploma Examination, Nov./Dec. 2016**ANALOG ELECTRONICS****Time : 3 Hours]****[Max. Marks : 100**

- Note :** (i) Answer any **SIX** questions from PART-A. Each question carries **5** marks.
(ii) Answer any **SEVEN** questions from PART-B. Each question carries **10** marks.

PART - A

1. Define zener diode & describe its reverse bias characteristic. **5**
2. Illustrate the concept of thermal runaway. **5**
3. Explain the working of transistor as a switch. **5**
4. Describe the working of a optocoupler. **5**
5. Classify the filters and explain its necessity. **5**
6. Explain the working NPN transistor. **5**
7. Explain how RC circuit can be used in oscillator to generate 180° phase shift. **5**
8. List the ideal characteristics of Op-Amp. **5**
9. With circuit diagram, Explain Op-amp as integrator. **5**

PART -- B

10. (a) Differentiate conductor, insulators & semiconductors with energy bands. **5**
(b) Explain the V-I characteristics of diode. **5**
11. (a) List the application of varistor & thermistor. **5**
(b) Describe the transistor biasing & its necessity. **5**

[1 of 2]**[Turn over**

12. (a) Derive the relation between Alpha & Beta. 5
(b) Define FET and write its applications. 5
13. (a) Write the difference between BJT & MOSFET. 5
(b) Sketch transistor characteristic to show cut-off, saturation & active region. 5
14. (a) Describe the working of LDR. 5
(b) Explain the working of Opto-isolator. 5
15. (a) Explain the block diagram of regulated power supply. 5
(b) Explain the working of half-wave rectifier. 5
16. (a) Explain the working of 7805 voltage regulator. 5
(b) Explain the working of transistor CE amplifier. 5
17. (a) Explain the working of crystal oscillator. 5
(b) Explain the working of push pull amplifier. 5
18. (a) List the advantages & disadvantages of negative feedback. 5
(b) Explain comparator circuit. 5
19. (a) Explain the working of Active high pass filter. 5
(b) Explain 555 timer as monostable multivibrator. 5

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