

**SUBJECT CODE NO:- P-295**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**F. E. (All) (CGPA) Examination May/June 2017**  
**Basic Electronics Engineering**  
**(Revised)**

[Time: Two Hours]

[Max.Marks:40]

Please check whether you have got the right question paper.

- N.B
- i) Q.No.1 is compulsory.
  - ii) Attempt any two questions from remaining questions.
  - iii) Assume suitable data if required.
- Q.1 Solve any five 10
- a) Find the color code for the following:-
    - 1) 4.4 k $\Omega$     2) 200 k $\Omega$  with  $\pm 5\%$  tolerance.
  - b) How depletion layer is formed?
  - c) Draw the symbols for PN Junction diode SCR, TRIC, DZAC.
  - d) What are the different types of capacitors?
  - e) State the need for voltage regulation.
  - f) What is the difference between Zener diode & normal PN junction diode?
  - g) Draw the symbol and truth table for NAND gate and 'AND' gate.
- Q.2 08
- a) What are the different types of MOSFET? Explain any one in detail.
  - b) Explain construction working principles of SCR device. 07
- Q.3 08
- a) Why there is need of filter? Explain any one filter with its input and output wave form.
  - b) Explain any one fixed IC Voltage regulator with its suitable example. 07
- Q.4 08
- a) Describe hexadecimal, octal number system with suitable example.
  - b) Explain AND, OR, and NOT gate with their truth table. 07
- Q.5 Write a short note on following (any three) 15
- a) JFET device
  - b) MOSFET construction
  - c) Regulated DC power supply
  - d) Universal gates
  - e) Applications of rectifiers.