Paper Code: 13507 1507

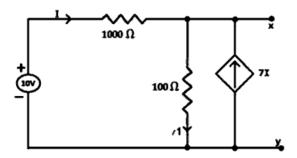
B.Sc. (Computer Science) (Part 1) Examination, 2016 Paper No. 3.1 BASIC ELECTRONICS

Time: Three Hours]

[Maximum Marks: 33

Note: Attempt all the *five* questions in all. Question No. 1 is compulsory.

- 1. Describe the binary logic. Write down the Kirchhoff's current and voltage laws.
- 2. (a) Differentiate low-pass and high-pass filters.
 - (b) Explain the superposition-theorem with their example.
- 3. (a) How oscillator is different from multivibrators.
 - (b) Write clearly about transformer relays describing its working.
- 4. (a) What are various BJTS-characteristics?
 - (b) Draw a well labelled block diagram of a power supply transformer.
- 5. (a) Obtain Thevenin's and Norton's equivalent circuit between 'x' and 'y' for the following network:



- (b) Write down the operating-principle of SMPS.
- 6. (a) Explain the difference between summing and difference amplifier.
 - (b) Define the following terms:
 - LED with photodiode
 - 2. LED with traditional diode
 - 3. Write short notes on any two of the following:
 - 4. PN-junction diodes
 - 5. Monostable multivibrators
 - 6. OP-AMP with black box concept
 - 7. Clipping and Clamping circuits

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