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SB-0623
First Year B. Sc. Examination
March/April – 2011
Electronics Paper : I
(Computer Science)(Basic Electronics)
(Old Course)

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

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| <p>नीचे दर्शायेल निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination :</p> <p>← F. Y. B. Sc.</p> <p>Name of the Subject :</p> <p>← Electronics Paper : 1</p> <p>← Subject Code No. : 0 6 2 3 ← Section No. (1, 2,.....): NIL</p> | <p>Seat No. :</p> <table border="1" style="width: 100%; height: 20px;"><tr><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td></tr></table> <div style="border: 1px solid black; border-radius: 15px; height: 60px; margin-top: 10px; display: flex; align-items: center; justify-content: center; padding: 10px;">Student's Signature</div> | | | | | | |
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- (2) All questions are compulsory.
- (3) Assume date if necessary.
- (4) Symbol and abbreviations have their usual meaning
- (5) Figures to the right indicate full marks.

- 1 Answer in brief : 14
- (i) Define tolerance of resistor.
 - (ii) What is Q-factor of capacitor ?
 - (iii) Define "Operating point".
 - (iv) Convert 64 decimal in to binary.
 - (v) What is OR law of Boolean algebra ?
 - (vi) Write the truth table of NAND gate.
 - (vii) Compare ROM and RAM.

- 2 (a) Describe various types of junction capacitance of diode. 7
- (b) Explain construction and types of inductor. 7

OR

SB-0623]

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[Contd...

- 2 (a) Explain operation of BJT. 6
(b) How transistor work as switch. 5
(c) Give the color code of following resistor : 3
(i) 1K ohms
(ii) 10 K ohms
(iii) 1 M ohms
- 3 (a) Explain binary addition, subtraction, multiplication and division with example. 8
(b) Explain working of photo diode in detail. 6
- OR**
- 3 (a) Prove De' Mogan's theorem. 8
(b) Prove the following Boolean identity. 6
 $(A+B)(A+C)=A+BC$
- 4 (a) Design full adder and subtractor and explain it. 8
(b) Draw the TTL circuit and explain circuit operation. 6
- OR**
- 4 (a) How Flip Flop working as memory element? Detail explain JK FF . 8
(b) Briefly explain EPROM. 6
- 5 Write notes : (any two) 14
(i) Types of capacitor
(ii) MOSFET
(iii) Logic Gate
(iv) Ripple Counter.
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