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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)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **F. Y. B. Sc.**

Name of the Subject :

☛ **Electronics Paper : 1**

☛ Subject Code No. : **0 6 2 3** ☛ Section No. (1, 2,.....) : **NIL**

Seat No. :

Student's Signature

(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

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. (A+B)(A+C)=A+BC	**6**
4	(a)	Design full adder and substractor 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.	