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**SB-0610**  
**First Year B. Sc. Examination**  
**March / April – 2011**  
**Electronics : Paper - I**  
**(Computer Science)**  
**(New Course)**

Time : 3 Hours]

[Total Marks : 70

**Instructions :**

(1)

<p>નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : <b>F. Y. B. Sc.</b></p> <p>Name of the Subject : <b>Electronics - 1 (New)</b></p> <p>Subject Code No. : <b>0 6 1 0</b> Section No. (1, 2,.....): <b>Nil</b></p>	<p>Seat No. : <table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"><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></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; margin-top: 10px;">Student's Signature</div>						

- (2) All questions are compulsory.
- (3) Figures to the right indicate full marks.
- (4) Assume data wherever necessary.

- 1 Write very short answers : 14
- (1) Write down the first 15 numbers of decimal, binary and hexadecimal number systems.
  - (2) Write  $(237)_{10}$  in BCD.
  - (3) State the De Morgan's Theorem.
  - (4) What is the use of CS line in the memory.
  - (5) What are partitions on a HDD.
  - (6) Give the full form UART and USB.
  - (7) A 64KB ram will have how many address lines.

- 2 (a) What is the scheme of representing negative numbers in a computer? Why the 2's complement system preferred? 8
- (b) Discuss any two applications of XOR Gates. 6

**OR**

- 2 (a) Describe how DOS logically divide the disk in tracks and sectors. 8
- (b) What is partition table and master boot record? 6

- 3 (a) Describe the organization of a semiconductor memory used in microcomputers. Describe the memory modules and memory packages used in microcomputer. **10**  
(b) Explain in brief RAM, ROM, NVRAM. **6**

**OR**

- 3 (a) Describe the PCI and the ISA bus standards. **8**  
(b) Explain the high speed serial bus standards. **6**

- 4 (a) Do as directed : **10**  
(1) Convert  $(264)_{10} = \underline{\hspace{2cm}}$   
(2)  $(010010100)_2 + (11001011)_2 = \underline{\hspace{2cm}}$   
(3) Subtract using 2's complement  $(0110)_2 - (0011)_2 = \underline{\hspace{2cm}}$   
(4)  $(23AC)_{16} + (1100)_2 = \underline{\hspace{2cm}}$   
(5)  $(12.25)_{10}$  represent as floating point number.  
(b) Prove the De Morgan's Theorem. **6**

**OR**

- 4 (a) What do you mean by input output device? Discuss the impact and non impact printers **8**  
(b) What are video displays? Discuss the CRT technology in brief. **6**

- 5 Write short notes : (any two) **14**  
(1) Basic Logic Gates  
(2) Reading and writing on an optical device  
(3) Pointing device and their types  
(4) Hamming code.