

**2008 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY**

**III B.TECH SEMESTER SUPPLEMENTARY EXAMINATIONS  
AUTOMATIVE ELECTRICAL AND AUTOTRONICS  
(AUTOMOBILE ENGINEERING)**

AUG/SEP 2008

**TIME : 3 HR  
MARK : 80**

---

**Answer any FIVE Questions  
All Questions carry equal marks**

1. (a) What is battery rating? Discuss various ratings.  
(b) How does a battery get sulphated? Can a sulphated battery be recharged?
2. (a) Discuss in detail various types of spark plugs for an automotive engine.  
(b) Write a brief note on surface discharge plug.  
(c) How will you service complete ignition system? Explain in detail.
3. Discuss the construction and working of starter motor for automobiles.
4. What is the principle of a generator? Give its constructional details.
5. (a) Explain the fusing of auto electrical circuits.  
(b) Explain the six volt and twelve volt auto electrical systems.
6. Explain the construction details of head lamp. Also explain about its internal wiring diagram.
7. (a) Discuss the advantages and disadvantages of 1's complement and 2's complement methods.  
(b) Convert the first 15 decimal numbers to base 7, base 8 and 9.
8. (a) What do you understand by register? Explain.  
(b) A binary number 1101 is serially entered into a 4-bit parallel out register that is initially clear. What are the outputs after three clock pulses?