

II B.Tech I Semester(RR) Supplementary Examinations, May/June 2010
BASIC ELECTRONICS
(Mechanical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Distinguish avalanche break down and zener break down
(b) Give the expressions for ripple factor for Half Wave rectifier with
 - i. Inductor filter and
 - ii. Capacitor filter. Compare the performance of the two filters with load variation.[8+8]
2. (a) What is "Early effect" phenomenon in a transistor and explain its consequences.
(b) Draw and explain the input and output characteristics of n-p-n transistor in C- B configuration.
[8+8]
3. (a) What are the advantages and disadvantages of negative feed back in amplifiers.
(b) Explain the effects of Negative feedback in an amplifier on,
 - i. Distortion,
 - ii. Stability of transfer function.[8+8]
4. (a) Briefly explain the operation of electromechanical timers.
(b) Discuss important controls used in resistance welding.
[8+8]
5. (a) Discuss important applications of induction heating.
(b) Briefly explain the principle of dielectric heating? Explain what is loss factor.
[8+8]
6. (a) What is the necessity of time base in cathode ray oscilloscope? Draw any one type of time base circuits employed in CRO and explain how it produces the saw-tooth wave
(b) List the applications of C R O.
[8+8]
7. Classify 8085 instruction in various groups. Give examples of instructions for each group. [16]
8. Explain the working principle of successive approximation A/D converter. Explain the function of each block of the converter. [16]
