



Reg. No. : .....

Name : .....

**Combined First and Second Semester B.Tech. Degree Examination, May 2009**  
**(2008 Scheme)**  
**08-109 : BASIC COMMUNICATION AND INFORMATION ENGINEERING**

Time: 3 Hours

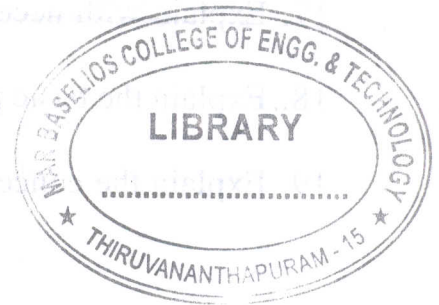
Max. Marks: 100

**PART – I**

Answer **all** questions :

**(10×4=40 Marks)**

1. Compare the characteristics of JFET with BJT.
2. Draw the CMOS inverter circuit.
3. Briefly explain the ion implantation process.
4. Give the principle of FM demodulation.
5. Briefly explain an application of radar.
6. What are the functions of a satellite transponder ?
7. What is the memory hierarchy in a computer system ?
8. What are the transmission guided media in a communication system ?
9. Briefly explain the WLL technology.
10. What are the functions of a router in a network ?



**PART – II**

Answer **any two** questions from **each** Module.

**(6×10=60 Marks)**

**Module – I**

11. Explain with diagram the input and output characteristics of a NPN transistor in common collector configuration.

**P.T.O.**



12. Draw the circuit diagram of a common emitter amplifier and explain how it amplifies the input signal.
13. Explain with diagram the working of an inverting and a non-inverting operational amplifier circuit.

### Module – II

14. Explain with block diagram the working of a CRO.
15. Explain with block diagram the working of PAL TV receiver.
16. Explain with necessary diagram how laser action is achieved in semiconductor and hence explain the working of a semiconductor laser.

### Module – III

17. Explain with necessary diagram the working of ALU in a microcomputer.
18. Explain the basic principle of ASK, PSK and FSK digital modulation techniques.
19. Explain the concept of client-server computing technique.