



Reg.No. :

Name :

**Combined First and Second Semester B.Tech. Degree Examination, May 2011
(2008 Scheme)**

**08-109 : BASIC COMMUNICATION AND INFORMATION
ENGINEERING
(CMNPHE TARUFB)**

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. Compare CE, CB and CC configurations of BJT with respect to voltage gain, current gain, input impedance and applications.
2. Why lower cut off and upper cut off frequencies in the response of RC coupled amplifier are called 'Half Power Points' ?
3. What are the features of an ideal OP-AMP ?
4. What are the compounds used for implanting arsenic, phosphorous and boron in ion implantation process ?
5. How Lissajous patterns are formed in CROS ?
6. What do you mean by 'interlaced scanning' in televisions ?
7. Write down the equation for maximum range in radar and mention each factor specified in the equation.
8. How error detection carried out using parity bit method ?
9. What type of switching is used in CDMA ? Briefly explain.
10. What do you mean by cache memory and virtual memory ?





PART – B

Answer **any two** questions from **each** Module. **Each** question carries **10** marks.

Module – 1

11. a) Draw the typical doping profile of a BJT and explain basewidth modulation. 5
b) With the circuit set up, explain the O/P characteristics of an NPN transistor in CE configuration. 5
12. Draw the circuits using operational amplifier :
a) Inverting amplifier for a gain of 10.
b) Non inverting amplifier for a gain of 11.
c) Integrator with square wave input and output waveforms.
d) Summing amplifier for three inputs. (2.5×4)
13. Portray different steps in Wafer preparation.

Module – 2

14. a) Compare AM and FM. 4
b) With the block schematics and waveforms, explain how CRO displays a waveform. 6
15. a) Draw the typical distribution network of cable television. Mention the features of each component in the network. 5
b) Explain the principle of Global Positioning System. 5
16. a) What do you understand by single mode and multi mode fibers ? 3
b) With neat sketches, explain any one type of source used in optical communication. 7



Module – 3

17. With functional diagram, explain the organization of 8085 microprocessor.
18. a) In sampling of continuous time signal for digital communication, what care must be taken in selecting sampling frequency ? 2
- b) Explain a PCM system with block schematics. 8
19. Write notes on :
- i) GPRS 3
- ii) Network topologies. 4
- iii) TCP/IP. 3
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