Reg. No.				



MANIPAL INSTITUTE OF TECHNOLOGY Manipal University

FOURTH SEMESTER B.TECH (E & C) DEGREE END SEMESTER EXAMINATION MAY/JUNE 2016 SUBJECT: CONSUMER ELECTRONICS (ECE - 3281)

TIME: 3 HOURS

Instructions to candidates

MAX. MARKS: 50

- Answer **ALL** questions.
- Missing data may be suitably assumed.
- 1A. Explain moving coil Microphone with its directivity curve. Give its merits and demerits.
- 1B. Differentiate composite Video signal and Vestigial sideband signal with necessary diagrams.
- 1C. The voltage gain of an Amplifier when it feeds a resistive load of $1K\Omega$ is 40dB. Calculate the magnitude of the output signal voltage and the signal power in the load when the input signal is 10mV.

(5+3+2)

- 2A. Explain the following with necessary waveforms. i) Ringer ii) DTMF iii)Dial Tone iv)Routing Tone v)Busy Tone
- 2B. Discuss cross over networks giving Tweeter and woofer frequency levels.
- 2C. Explain the need of dc bias for a condenser type loudspeaker with its merits and demerits.

(5+3+2)

- 3A. Explain the working of microwave oven with a digital timer system for timing control.
- 3B. Differentiate between optical storage and solid state storage
- 3C. Spherical sound waves are emitted uniformly in all directions from a point source. The radiated power P being 25W. What is the intensity and the sound level of the sound wave at a distance of r + 2.5m from the source?

(5+3+2)

- 4A. Discuss GSM network architecture for call transfer.
- 4B. Draw the block diagram of basic television transmitter and explain its working.
- 4C. Write a program flow chart for washing machine control.

(5+3+2)

- 5A. With a neat diagram explain the working of vidicon camera tube. Give its merits and demerits.
- 5B. Explain the architecture of the barcode scanner and decoder with an example.
- 5C. Assume a system of 32 cells with a cell radius of 1.6km supports 336 traffic channels with a reuse factor of N=7. If there are 62 total cells find the total geographic area covered, and total number of channels per cell.

(5+3+2)