Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

FOURTH SEMESTER B.TECH. (E & C) DEGREE END SEMESTER EXAMINATION
APRIL/MAY 2019
SUBJECT: CONSUMER ELECTRONICS(ECE - 3281)

TIME: 3 HOURS **MAX. MARKS: 50**

Instructions to candidates

- Answer **ALL** questions.
- Missing data may be suitably assumed.

1A. With neat diagram discuss the working of Balanced armature headphones. What are the controls associated with hearing aids? Give its limitations.

1B. Explain working of optical discs with the structure of blue ray disc. Discuss how DVDs can store more data than regular CDs.

1C. A microphone has an output of -60dB and is connected to a 0.5MΩ input of a preamplifier. The preamplifier has a gain of +40dB.the signal then passes through an equaliser with an insertion loss of -15dB through a main amplifier with a gain of +65dB. if the output of the speaker is 6W find the total power gain and the input voltage to the preamplifier.

(4+3+3)

2A. Discuss with neat block diagram, working of Television receiver and sketch the dc component of the video signal.

2B. Discuss how the image continuity is created in television pictures. With neat diagram explain the basic principle of working of a television picture tube.

(5+5)

3A. Give a brief description about the different generations of GSM. Discuss network architecture of GSM with its frequency allocation.

3B. Sketch the frequency allocated signals for the dual tone multi frequency system from 0 to 9 in a telephone system.

3C. Plot the graphical curve for hand off strategies and explain the need of cell sectoring.

(5+3+2)

4A. Give the internal organization of the calculator and explain its working.

4B. Discuss with block diagram, electronic fund transfer system of automated teller machines.

4C. With an example for universal product code, discuss barcode scanner and decoder.

(4+3+3)

5A. Give the functional block diagram of a microwave oven with digital timer system and explain its working.

5B. Discuss washing machine control system with data flow chart and program flow chart.

5C. Discuss Vapour compression refrigeration system with necessary diagram.

(4+3+3)