2022

ELECTRONICS — HONOURS — PRACTICAL

Paper : CC-13P

Full Marks : 30

Answer *any one* question.

Experiment – 18, LNB – 5, Viva – 7

1. Implement an amplitude modulator circuit. Measure the modulation index (mi) for four different amplitudes of the audio signal.

   Theory and circuit – 3

   Implementation – 3

   Record of data – 8

   Calculation – 4

2. (a) Implement an amplitude demodulator circuit to demodulate a singletone wave. Measure singleton wave, carrier along with the demodulated wave. Plot singletone wave, carrier wave and demodulated wave.

   Theory and circuit – 3

   Implementation – 3

   Record of data – 3

   Graph – 3

   (b) By varying the ampletude of singletone wave achieve

   (i) Under modulation (ii) 100% modulation and (iii) over modulation. In each case, plot the corresponding singletone and demodulated wave.

   Graph – 2+2+2

3. Implement frequency modulator. Find the modulation index by measuring minimum and maximum frequency deviation from the carrier frequency using CRO for two different modulating signal.

Theory and circuit – 4

Implementation – 4

Record of data – 2+2

Calculation – 4

Comparison – 2

4. Implement a frequency demodulator circuit. Measure the demodulated wave using CRO (Take at least two sets of modulating signal) and plot the graph for modulatory wave, carrier wave and demodulated wave.

Theory and circuit – 3

Implementation – 3

Record of data – 6

Graph – 6

5. Implement a pulse amplitude modulator circuit. Measure modulating signal the clock pulse and the modulated wave using CRO. Plot all the signals.

Theory and circuit – 3

Implementation – 3

Record of data – 3+3+6

6. Implement a pulse width modulator circuit. Measure modulating signal, the clock pulse and the minimum and maximum width of the modulated wave using CRO.

Theory and circuit – 3

Implementation – 3

Record of data – 3+3+(3+3)

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2022

ELECTRONICS — HONOURS — PRACTICAL

Paper : CC-14P

Full Marks : 30

Answer *any one* question.

LNB – 05, Viva – 07, Experiment – 18

1. Determine the wave length of sodium light using Newton's Ring experimental set-up.

   [Theory – 4, Data – 8, Calculation – 6]

2. Determine the Resolving Power of a defraction Grating available in laboratory.

   [Theory – 4, Data – 8, Calculation – 6]

3. Determine the Dispersive power of Defraction Grating available in laboratory.

   [Theory – 4, Data – 8, Calculation – 6]

4. Determination of V-I characteristics of three different LED and compare their cut-in voltages.

   [Theory – 4, Data – 9, Graph – 4, Comparison – 1]

5. Determination of the V-I characteristics of photo diode for three different light intensity.

   [Theory – 4, Data – 9, Graph – 5]

6. Determination of Numerical aperture and Acceptance angle of an optical fibre.

   [Theory – 4, Data – 8, Calculations – 6]

7. Determine the Specific Rotation of Scan Sugar using Polarimeter.

   [Theory – 4, Data – 8, Calculation – 6]

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