E03KU21

Candidate Code.....

Name and signature of candidate.....

UNIVERSITY OF KERALA

FOURTH SEMESTER M.Sc. PHYSICS PRACTICAL EXAMINATIONS, AUGUST 2021

Time: 6 Hours **PH 262 ADVANCED ELECTRONICS PRACTICALS** **Max. Marks 75**

(Attempt the marked questions)

PART A (45 Marks)

1. Design and construct an active Low pass filter of First and Second order with an upper cut off frequency of .....kHz and plot the frequency response, Determine the roll off rate from the graph.
2. Design and construct a differential amplifier using transistors for a voltage gain of 100 in the difference mode. Study the output waveforms. Use the differential amplifier in the common mode and find the CMRR.
3. Design and construct a voltage controlled oscillator using IC 555 and plot the graph between control voltage and output frequency
4. Design and construct an AM modulator using transistor. Measure the modulation index. Construct a demodulator and verify the output.
5. Design and construct an astable multivibrator for a frequency of .....kHz using OP AMP 741, with 50% duty cycle. Observe the frequency using CRO and compare it with designed and calculated values. Repeat the experiment for 60% duty cycle.

PART B (20Marks)

1. Write and execute an assembly language program to sort the given data in descending order, using 8086
2. Write and execute an assembly language program to find the Sum of the contents of Block 1 and 2 using 8086.
3. Write an assembly language program to find out the largest from a group of 8 bit/16 bit numbers using 8085/86 and execute the program.
4. Using 8255A interface and 8085/8086 processor generate a square wave of period ..... ms. Observe the waveform using a CRO and measure the pulse widths.
5. Write an assembly language program to convert binary to BCD. Execute the program using 8086 Processor and verify the result.

FOR THE USE OF EXAMINERS ONLY

PART A Electronics	Marks awarded	Max Marks	PART B Microprocessor.	Marks awarded	Max. Marks
Circuit diagram and design		10	Writing program-correct execution		15
Skill, layout, soldering and wiring		15	Viva Voce		3
Viva-voce conducted during the examination		5	Result and Discussion		2
Tabulation of data, graph and error analysis		10			
Result and discussion		5			
Total-Part A		**45**			
Record		**10**	**Total-Part B**		**20**

REMARKS/COMMENTS:

	Marks	Max.
Part A		45
Part B		20
Record		10
Total		**75**

Name and Signature of Examiner 1

Name and Signature of Examiner 2