E02KU21

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 astable multivibrator for a frequency of .....kHz using OP AMP 741, with duty cycle of 50%. Observe the frequency using CRO and compare it with designed and calculated values. Repeat the experiment for duty cycle of 60%.
2. Design and construct a voltage controlled oscillator using IC 555 timer and plot the graph between control voltage and output frequency.
3. Design and construct an AM modulator using transistor and verify the modulation index for a modulating signal with amplitude = $0.6V_{pp}$ and frequency =.....Hz. The carrier signal amplitude = $1V_{pp}$ and frequency =.....kHz.
4. Design and construct an active High pass filter of First and Second order with a lower cut off frequency of .....kHz and plot the frequency response. Determine the roll off rate from the graph.
5. Design and construct a monostable multivibrator using OP AMP 741 with a pulse width of .....ms . Repeat the experiment for two more pulse widths ..... ms and .....ms.

PART B (20Marks)

1. Write an assembly language program to convert BCD to ASCII. Execute the program using 8086 Processor and verify the result.
2. Write and execute 8086 assembly language program to generate Fibonacci series.
3. Write an assembly language program for 8086 to design and demonstrate a simple traffic light controller
4. Write an assembly language program to convert BCD to binary. Execute the program using 8086 Processor and verify the result.
5. Write and execute an assembly language program to find the Sum of the contents of Block 1 and 2 using 8086.

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