

20KU05 E

Candidate Code

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Date and time of exam

Name and signature of candidate

**UNIVERSITY OF KERALA**  
**FOURTH SEMESTER M.Sc. PHYSICS PRACTICAL EXAMINATION AUGUST/SEPTEMBER 2020**  
**PH 262 E ADVANCED ELECTRONICS** **Max. Marks 75**  
**Time: 6 Hours**  
**(Attempt the marked questions)**

**SECTION A (55 Marks)**

- Design and construct active High pass filter of First and Second order with cutoff frequency .....Khz and plot the frequency response. Determine the roll of rate from the graph.
- Design and construct an Astable multivibrator for a frequency of 1 Khz using IC 555. Measure the output using CRO. Repeat the experiment for at least two more values of frequencies.
- Design and construct a monostable multivibrator using OP AMP 741 with 1ms pulse width. Repeat the experiment for at least for two more values of frequencies
- Design and construct a triangular wave generator.
- 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. .

**SECTION B (20 Marks)**

- Write a program to convert ASCII to BCD. Execute the program using 8086 Processor and verify it.
- Write an assembly language program to find the Sum of the contents of Block 1 and 2 using the processor 8086. Execute the program and verify it.
- Using 8085/8255A generate a square wave of suitable period of ..... ms. Observe the waveform using a CRO and measure the space and pulse width.
- Write an assembly language program to generate a Fibonacci series using 8086 processor.
- Write an assembly language program to display the LED board using 8085/86 and execute the program.

**FOR THE USE OF EXAMINERS ONLY**

<b>PART A Advanced electronics</b>	Marks awarded	Max Marks	<b>PART B Microprocessor.</b>	Marks awarded	Max. Marks
Record		10			
Circuit diagram and design		10	Writing Program and correct execution		15
Viva-voce conducted during the examination		5	Viva Voce		3
Skill in performance – layout, soldering and wiring		15	Result and Discussion		2
Tabulation graph and error analysis		10			
Result and discussion		5			
<b>Total</b>		<b>55</b>	<b>Total</b>		<b>20</b>

**REMARKS/COMMENTS:**

Name and signature of Examiners: