Third Semester Examination-2018

M.Sc. PHYSICS

Paper Code:PHS 306(b)

Applied Electronics (Spl Paper)-I

(PRACTICAL)

Full Marks : 50 **Time: 3 Hours**

The figures in the right hand margin indicate full marks. Candidates are required to give their answers in their own words as for as practicable. Everyone must attempt any one question set.

Full Marks: 40
Practical Note Book: 5
Viva Voice: 5

I. Working formula with interpretation/ theoretical explanation. (5)
II. Schematic Circuit diagrams. (5)
III. Implementations. (4)
IV. Data Recording (10)
V. Drawing the graphs and calculation (7)
VI. Accuracy (4)

1. Design, construction and performance testing of a Logarithmic amplifier using IC 741, diode and matched transistor.
2. Design, construction and performance testing of an Anti-Logarithmic amplifier using IC 741, diode and matched transistor.
3. Design of a high pass second order Butterworth filter.
4. Design of a low pass second order Butterworth filter.
5. Design an active band pass filter using single stage IC 741 op-amp.
6. Design of a BCD adder circuit and performance of it by providing data.
7. Study of pulse code modulation and perform it by providing instruction.
8. Design and perform frequency to voltage converter circuit.
9. Study of a time division multiplexing circuit and perform it by providing instruction.

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VII. Working formula with interpretation/ theoretical explanation. (5)
VIII. Schematic Circuit diagrams. (5)
IX. Implementations. (4)
X. Data Recording (10)
XI. Drawing the graphs and calculation (7)
XII. Accuracy (4)

10. Design, construction and performance testing of a Logarithmic amplifier using IC 741, diode and matched transistor.
11. Design, construction and performance testing of an Anti-Logarithmic amplifier using IC 741, diode and matched transistor.
12. Design of a high pass second order Butterworth filter.
13. Design of a low pass second order Butterworth filter.
14. Design an active band pass filter using single stage IC 741 op-amp.
15. Design of a BCD adder circuit and performance of it by providing data.
16. Study of pulse code modulation and perform it by providing instruction.
17. Design and perform frequency to voltage converter circuit.
18. Study of a time division multiplexing circuit and perform it by providing instruction.

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