1. Determine the ramp time required for the digital voltmeter to register 1999 V if the clock generator frequency is 1MHz. Also, determine a suitable frequency for the ramp generator.

2. Recalculate the measured voltage for the DVM in previous problem if the clock frequency drifts by -5%.

3. The DVM has a 200 kHz clock, and the integrator control waveform frequency is 45 Hz. Calculate the number of clock pulses that occur during t1 and determine a suitable time duration for t2 when the input is 1V. Recalculate t1, t2 and the measured voltage if the clock frequency drifts by -5%.

4. Calculate the maximum measurement error for a digital voltmeter with an accuracy of: $\pm(0.1\%$ rdg $+ 1d)$ when indicating 1.490 V .

5. Determine the possible maximum and minimum measured voltage when the instrument in the previous problem indicates 1.255 V .

6. A digital frequency meter uses a time base consisting of a 1 MHz clock generator frequency- divided by six decade counters. Determine the meter indication (a) when the input frequency is 5 kHz and the time base output is selected at the six decade counter and (b) when the input frequency is 2.9 kHz and the time base output is at the fifth decade counters.

7. A frequency meter with an accuracy of ±1 LSD $\pm (1 * 10^{-5})$ is used to measure frequencies of 30 Hz, 30 MHz and 300 MHz, Calculate the percentage error for each measurement.

8. The frequency meter in Problem (7) is rearranged for reciprocal counting. Determine the error that can occur when a 30 Hz frequency is measured on this system.

9. A frequency meter with a 1 MHz clock source is used for measuring the time period of an input wave.
(a) Determine the measured time period when 1550 pulses are registered on the display.
(b) Determine the new display reading for the same input wave if the clock generator is replaced with a 1.5 MHz source.

10. A frequency meter measuring the ratio of two frequencies displays 1133 when the pulses of the unknown frequency (f_2) are counted over 1000 cycles of the known frequency (f_1) . If f_1 is 33 kHz, determine f_2.