GUJARAT UNIVERSITY

BE Semester-V (Instrumentation & control) Question Bank

(Applied Electronics) IC 502

All questions carry equal marks(10 marks)

Q.1	Explain the functional block diagram of 500MHz four-quadrant multiplier circuit.
Q.2	Describe the features of 500MHz four-quadrant multiplier circuit with suitable explanations.
Q.3	Explain the basic operation of AD834 with basic connections for wideband operations.
Q.4	Explain the any two applications of AD834 with suitable diagrams.
Q.5	Explain the power measurement (mean square and RMS) method and wide-band three signal multiplier/divider circuit in detail with respect to AD834.
Q.6	Explain the phase-locked loop with its connection diagrams and its features.
Q.7	Explain the applications of LM565.
Q.8	Derive equations for loop gain and loop filter in regards with LM565..
Q.9	Explain the difference between analog phase lock loop and digital phase lock loop.
Q.10	Explain monolithic function generator with its general description and its features.
Q.11	Explain XR-2206 with its block diagram and pin description.
Q.12	Explain the basic test circuit of monolithic function generator.
Q.13	Explain the sine wave generation without external adjustment with diagrams of monolithic function generator,.
Q.14	Explain the sine wave generation with minimum harmonic distortion with diagrams of monolithic function generator,.
Q.15	Explain sinusoidal FSK generator.
Q.16	Explain circuit of pulse and ramp generation.
Q.17	Explain the basic description of LED/LCD display driver of 31/2 digit.
Q.18	Give the typical application of IC7106 and explain it with its test circuit
Q.19	Explain the integrator amplifier output waveform with its detailed description.
Q.20	Explain the digital section of LCD with diagrams.
Q.21	Explain the digital section of LED with diagrams.
Q.22	Give different component value selection for ICL 7106 and ICL 7107.
Q.23	Explain LM2907 with its general description, block diagram and its features.
Q.24	Explain different applications of frequency to voltage converter.
Q.25	Explain different anti-skid circuit functions with respect to frequency to voltage converter.
Q.26	What is isolation amplifier? Explain its features .
Q.27	Describe the isolation amplifier with its applications. (any two)

Q.28	Give the difference between AD202 and AD204 with its functional block diagram.
Q.29	What is dot/bar display driver? Explain its description with their features.
Q.30	Explain the functional block diagram of LM3914.
Q.31	Explain bar display with alarm flasher with suitable circuits.
Q.32	Explain different pin description of high performance dual switched capacitor filter.
Q.33	What is log amplifier? Explain ICL8048 with detailed description.
Q.34	What is offset and scale factor adjustment? Explain its circuits with regards to ICL8048.
Q.35	What is programmable gain amplifier? Explain its block diagram.
Q.36	How we can optimize frequency response for the preamplifiers? Explain PGA gain control.
Q.37	Explain the functional block diagram of HCT4051.
Q.38	Explain CMOS analog multiplexers/demultiplexers with logic level conversion.
Q.39	Derive equations for loop gain and loop filter in regards with LM565..
Q.40	Describe the isolation amplifier with its applications.