

1. Distinction between FM and PM at high frequencies.
2. Which of these has the least propagation delay RTL/ECL/I<sup>2</sup>L/CMOS.
3. Switching speed of CMOS is affected/unaffected by changes in supply voltage.
4. Which of these provides a measure of heart rate P/QRS complex/T/none of these.
5. Given a ckt of a logarithmic amplifier you had to identify what ckt was it.
6. JFET can operate in depletion/enhancement/both/none of the above modes.
7. When a BJT operates in saturation the junctions are fwd biased/reverse biased/...
8. BIBO stability criterion implies that poles are within/outside/on the unit circle.
9. For faithful amplification of low amplitude signals the cut-off/active/saturation regions of a transistor is used.
10. Lissajous pattern of a signal rotates 36 times per minute. if the oscillator frequency is 560 kHz then the unknown freq is...
11. % resolution of a 10 bit ADC.
12. To obtain 10 mV resolution on 5 V range how many bit DAC is to be used..
13. Why is LCD preferred to LED.
14. How will 0.6973 be displayed on 10 V range of a 4 ½ digit multimeter.
15. Which of the following cannot be used for an automatic feedback temp ctrl system thermocouple/thermometer/thermistor/IC sensor.
16.  $Y(n)=X(-n+3)$  is an example of a linear/non linear and shift variant/invariant system.
17. The falling body method is used to determine viscosity/humidity/....
18. Which of these methods of viscosity measurement gives greatest accuracy falling body method/rotating cylinder method/both/...
19. Some question on gas chromatography
20. A device having a rotor with 3 Y-connected coils and a stator is likely to be a synchro/RVDT/control transformer/...

21. In a twisted ring counter the initial count is 1000. after the 4th clock pulse its state will be....
22. A 240 kHz signal is given into a 3 bit binary ripple counter. The lowest o/p freq obtainable is....
23. For parity bit checking which of the following gates can be used XOR/NAND/OR/XNOR.
24. Why is a BJT called so..
25. Identify the expression for gauge factor of a strain gauge among the given options.
26. In a semiconductor strain gauge as tensile strain is applied what changes take place in the n and p areas..
27. How does a radioactive level gauging system work...
28. A capacitive transducer measuring level works on the principle of change in distance between plates/change in dielectric strength/...
29. For maximum power transfer in an AC circuit the condition to be satisfied is  $Z_L + Z_S = 0$  /  $X_L + X_S = 0$  / none of these / .... where l and s refers to load and source respectively.
30. Find the transfer function from a block diagram.
31. Synchronous ctrs are preferred to asynchronous ctrs bcoz they are faster/glitches at the output can be avoided/both/none of these.
32. The lissajous figure formed on an oscilloscope looks like the English figure of 8. if the vertical channel input is 1 kHz the horizontal input freq is....
33.  $I_E = I_C$  for a transistor in saturation/cutoff/active/both saturation and active regions.
34. Reproducibility of measurements is called accuracy/precision/linearity/none of these.
35. Which of these is not strictly a static characteristic accuracy/precision/tolerance/linearity.
36. The shunt coil in a Q meter has resistance of the order of mO/O/kO/..
37. For measuring inductance of high Q coils the bridge used is Maxwell-wien/Schering/...
38. Which of these measures inductance in terms of capacitance Maxwell and hay/Maxwell and Schering/hay and Schering/...
39. In a flip-flop with preset and clear inputs both are applied simultaneously/clear is cleared when preset is applied/preset is cleared when clear is applied/....

- 40.. Which of these values of  $\zeta$  gives damped oscillations: 0/1/1.6/0.6
41. For a transformer of ratio 1:a and excited by a source V with impedances Z1 and Z2 on the primary and secondary side value of a for maxm power transfer should be..
42. Fourier transform of  $\cos(\omega_0 t)$  is...
43. At  $t=0$  the step response of a 1st order system is....
44. 555 can be used as a monostable/astable/freq dividing ckt/all of these.
45. In a PT when the secondary is open cktd with the primary excited what will happen.
46. If a system is marginally stable then the nature of oscillations will be...
47. Linear encoders mostly use straight binary/BCD/gray code.
48. For an accelerometer working in displacement mode the ratio of forcing freq to natural freq should be.....
49. According to Eulers theory crippling or buckling load is \_\_\_\_\_ ( $W_{cr} = \frac{C_p 2EI}{l^2}$ )
50. During sensible heating, specific humidity\_? (remains constant)