

## JobDuniya

### Technical Interview: Electronics and Communication Engineering

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#### Electronics and Communication Engineering

##### Signals and Systems

- 196) What is Fourier statement?
- 197) Classify signals based on the characteristics.
- 198) What is mean by non-realizable system?
- 199) When does a system called invertible.
- 200) Why do you want to covert signal from time domain into frequency domain?
- 201) How does Fourier series different from Fourier transform?
- 202) What is the Discrete Time Fourier Transform?
- 203) What is the Difference between Laplace Transform and Continuous Time Fourier Transform?
- 204) What are is the between Z-transform and Discrete Time Fourier Transform?
- 205) What are the properties of twiddle factor?
- 206) What is Fast Fourier Transform?
- 207) How do you analyze a Linear Time Invariant system for its stability?
- 208) What are the methods available for realization of Linear Time Invariant systems?
- 209) What is mean by canonical structure?
- 210) State sampling theorem for Low pass signals.
- 211) State Sampling theorem for Band pass signals.
- 212) What is mean by aliasing?
- 213) How do you avoid aliasing?
- 214) How do you reconstruct a signal from its sampled version?
- 215) How do you describe a Linear Time Invariant system?
- 216) What is the sampling property of an impulse?
- 217) What are the properties of convolution?

- 218) What is Region of Convergence (ROC) in Laplace transform?
- 219) What is ROC in Z-transform?
- 220) Where does location of poles lie in S-plane for the system to be stable?
- 221) What do you mean by in place computation for the implementation Fast Fourier Transform algorithm?
- 222) What is the limitation of Fourier Transform?
- 223) Define group delay and phase delay.
- 224) What are the Dirichlet's conditions for the existence of Fourier transform?
- 225) State Parseval's theorem.
- 226) What are the basic signals?
- 227) What does unit represent in Unit impulse signal?
- 228) Define energy and power signals.
- 229) How do you analyze random signals?
- 230) What do you mean by auto correlation and cross correlation?
- 231) What is the condition required for addition of two periodic signal results into a periodic signal?
- 232) Classify the signals based on their characteristics.
- 233) How do check the time invariance of a Linear Time Invariant system?
- 234) How do you test the stability of a Linear Time Invariant system without location of poles?
- 235) What is the relation between unit step and unit impulse signal?
- 246) What is mean by Hilbert transform of a signal?
- 237) List the properties of a Hilbert transform.
- 238) State initial and final value theorems for Laplace transform.
- 239) State initial and final theorems for Z transform.
- 240) When does a system considered as distortion less?
- 241) What does the Fourier transform of a Gate function?
- 242) What is the advantage of transposed form of realization of structure?
- 243) What is the Difference between Decimation in Frequency – Fast Fourier Transform and Decimation in time Fast Fourier Transform?

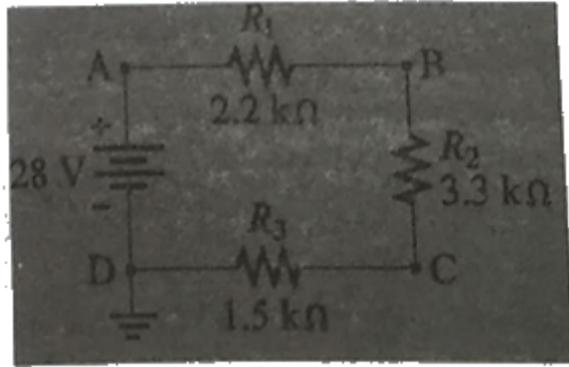
- 244) Write the speed improvement factor of Fast Fourier Transform compared to discrete Fourier Transform?
- 245) How do you find linear convolution using Discrete Fourier Transform?
- 246) What is the Difference between linear and circular convolution?
- 247) What is effect in frequency domain of a signal which is shifted in time domain?
- 248) What is the effect in time domain of a signal which is shifted in frequency domain?
- 249) What is the relation between number of Fourier coefficients and slope of signal in time domain?
- 250) How do you find Discrete Fourier Transform of a sequence using linear transformation?
- 251) Define multirate system.
- 252) What is mean by interpolation of a sequence?
- 253) What is mean by decimation of a sequence?
- 254) How do you change the sampling rate by a non-integer factor?

### Network Theory

- 255) Ohm's law is applicable to ...
- 256) What is the color code for a  $220 \Omega 5\%$  resistor?
- 257) When parallel resistors are of three different values, which has the greatest power loss?
- 258) If the current in a circuit equals 0 A, it is likely that ... .
- 259) What is the effect of Resistance on temperature?
- 260) A Capacitor is driven by a constant current source.  
The output across the capacitor will
- 261) Kirchhoff's current law is valid for which circuits?
- 262) If current flowing through inductance is constant with respect to time the voltage developed across the inductance ...
- 263) Two coupled inductances  $L_1$  and  $L_2$  having mutual inductances  $M$  are connected in series. By a suitable connection, is it possible to achieve a maximum overall inductance?
- 264) If the voltage across a fixed capacitor is increased, the stored charge will be?
- 265) The units of measurement of reluctance are?

- 266) A capacitor has a stored energy of 0.04J with an applied voltage of 200V. The value of capacitance is?
- 267) Which law is used for finding direction of induced emf?
- 268) If the voltage across the capacitance is constant with respect to time, the current flowing through it is?
- 269) The average power delivered by passive element is
- 270) A series RLC circuit consists of  $R = 20$  ohms,  $X_L = 10$  ohms and  $X_C = 10$  ohms is connected across an ac supply of 100V. The quality factor of the circuit is?
- 271) The  $X$  and  $Y$  in a phasor diagram stands for?
- 272) The half power bandwidth of a series RLC circuit is?
- 273) In a resonant circuit, the expression for bandwidth in terms of resonant frequency 'of' & quality factor 'Q' is?
- 274) Q – factor of a resonant circuit is a measure of
- 275) A connected planar graph has 4 nodes & 5 branches. The number of meshes in the dual graph will be.
- 276) If  $n$  is the number of nodes then the total number of trees are?
- 277) In the Thevenin's equivalent circuit,  $v_{th}$  equals
- 278) Reciprocity theorem is application only to
- 279) In a linear circuit, the superposition principle can be applied to calculate the Norton's theorem is a dual of
- 280) Compensation theorem is applicable to
- 281) A network having one or more than one source of emf is known as which network?
- 282) What are bilateral elements?
- 283) Two heaters, rated at 1000W, 250V each connected in series across a 250V, 50Hz Ac mains the total power drawn from supply would be?
- 284) The condition for the validity of ohm's law is that?
- 285) The dual of a parallel RC circuit is a \_\_\_\_\_?
- 286) A network consists of linear resistors and ideal voltage source. If the value of resistors is doubled, then voltage across each resistor is?
- 287) Superposition theorem is not applicable for?
- 288) A current is said to be direct current when it's?

- 289) The form factor of sinusoidal alternating current is?
- 290) The power factor of an ac circuit lies in between.
- 291) Unit of reactance power is?
- 292) If the small capacitance is added to highly inductive circuit then Power factor will be?
- 293) Real part of admittance is? Imaginary part is?
- 294) The shunt element of a band pass filter is?
- 295) The poles and zeros of an all pass network are in which part of s-plane
- 296) The Euler's identity is given by the equation?
- 297) Unit of inductive reactance is?
- 298) Substitution theorem is applicable to which networks?
- 299) Constant k filter is also known as?
- 300) The units of attention are?
- 301) In a two-port network, the Z parameter  $Z_{11}$  can be expressed in terms of ABCD parameters as?
- 302) In a two port networks, the Y parameter  $Y_{11}$  can be expressed in terms of H parameters as?
- 303) M derived filter is a development of which filter?
- 304) In the given below circuit, what type of failure will cause the voltage at point B to equal the voltage at point C?



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