Q1\ Choose right answer for each the following.

1. The communications medium causes the signal to be.
2. Amplified. , b- modulated. , c-attenuated. , d- interfered with
3. The function of the input transducer in a communication system is.
4. To transmit the massage signal.
5. To modulate the message signal.
6. To convert message sound signal into electrical signal.
7. None of the above.
8. Communication is the process of.
9. Keeping in touch.
10. Broadcasting.
11. Entertainment by electronics.
12. Exchanging information.
13. The ultra high frequency (UHF) range extends from.
14. 3-30 MHz , b- 30-300MHz , c- 300-3000 MHz , d- 3000-30,000 MHz

Q2\ Answer by using false or true for each the following.

1. In a parallel to serial converter, usually a shift register does this job.
2. conversion of a sampled analog signal into a PCM bit stream called decoding.
3. In FDM all the signal are transmitted simultaneously over the same communication medium.
4. Digital channels are more prone to distortion and interference than analog channels .

Q3\ Explain in brief a digital coding.

Q4\ Determine whether the fallowing signals are periodic or not :

1. x(t)= cos2/5 πt.
2. x(t)=cos2/7πt.

Q5\ An analog signal is expressed by the equation x(t)=3 cos (50πt) + 10 sin (300πt)- cos (100πt). Calculate the Nyquist rate and Nyquist interval for this signal.

Q6\ The information in an analog signal voltage waveform is to be transmitted a bandwidth of 100Hz and an amplitude rang of -10 to +10 volts.(accuracy is given as ±0.2%).

a. Find the minimum sampling rate required.

b. Find the number of bits in each PCM word .

c .Find minimum bit rate required in the PCM signal .

d. Find the minimum absolute channel bandwidth required for the transmission of the PCM signal .

Good Luck

Head of Department Lecturer