Section - A

1) State the HDB3 Scrambling technique
2) Write the equations for FSK
3) Name the wireless propagation modes
4) Write the propagation modes for fiber optic cable
5) Given a bandwidth of 7500 Hz as 8 levels Calculate the Nyquist Band width.

Answers (Section - A)

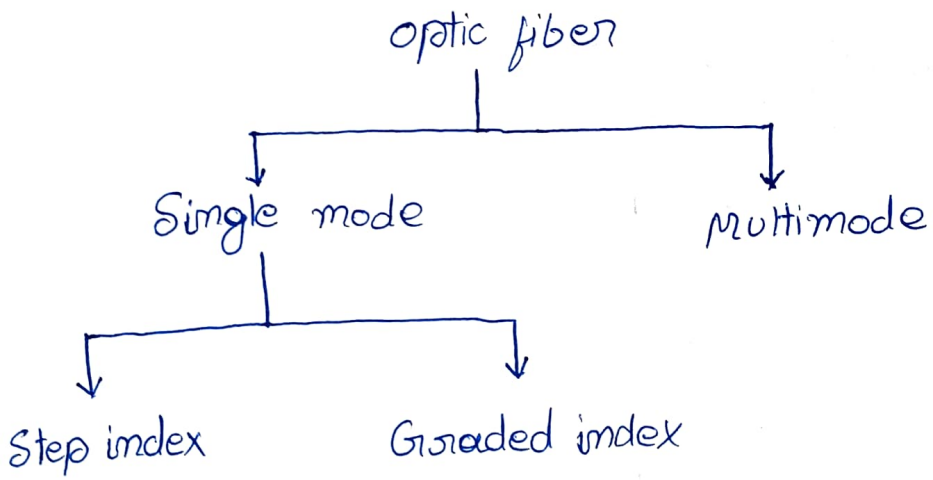
1) HDB3 Stands for High density Bipolar 3 Zeroes

Preceding Pulse	odd	Even
−	000−	−00−
+	000+	+00+

3) There are Three mode of propagation

1) Sky wave propagation
2) Ground wave propagation
3) line of Sight.

4) propagation modes in fiber optic cable



Section - B

1) The Spectrum of the channel is 7mhz and 5mhz SNR dB = 68 calculate the channel capacity and voltage level

2) Illustrate about guided media

3) demonstrate the techinques used to convert digital data to analog signal

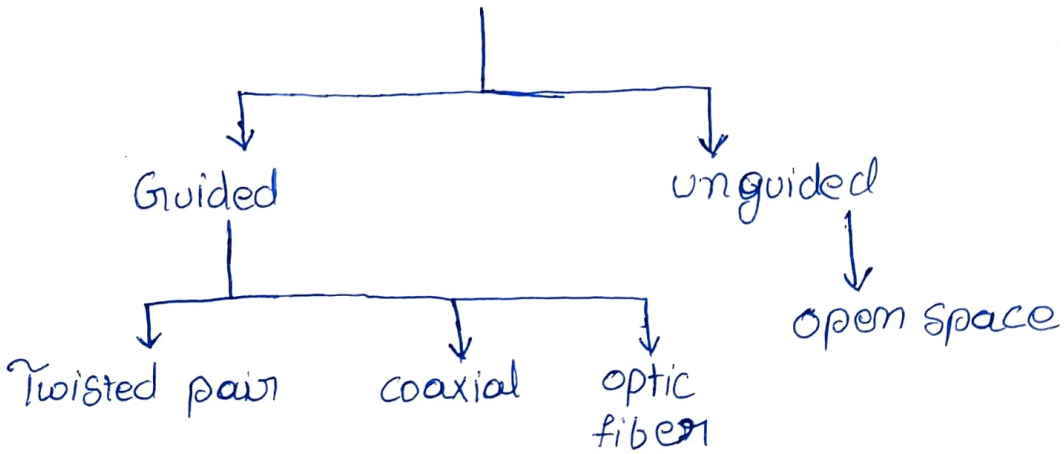
4) Given the sequence

1 0 1 0 1 1 0 1 0 1 0 1 0 1

into digital signal

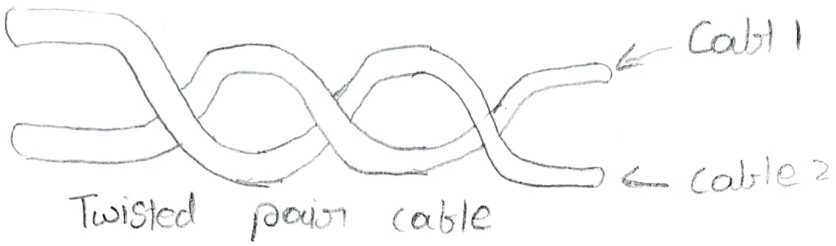
Answers (Section - B)

2) Transmission media



Twisted pair cable

Twisted pair consists of two conducting wires twisted with each other

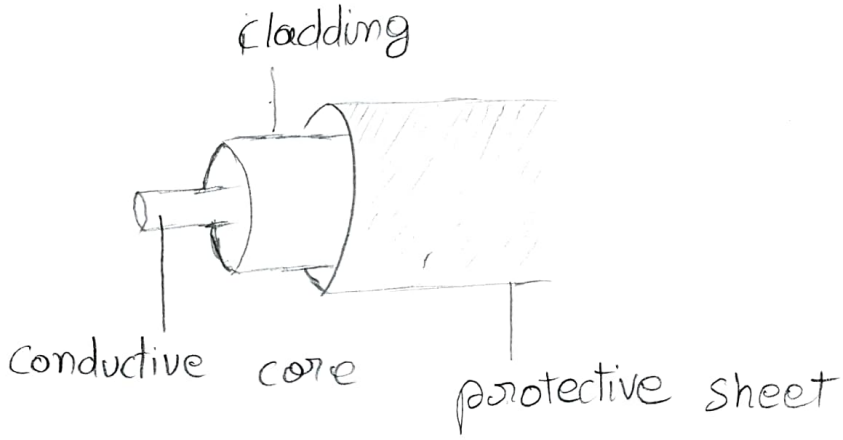


Twisted pair cable

Twisted pair cables are used for short range less frequency applications like local/home Telephone network.

The construction of twisted pair cable is not complex as it is two insulated copper wires twisted together

Coaxial cable

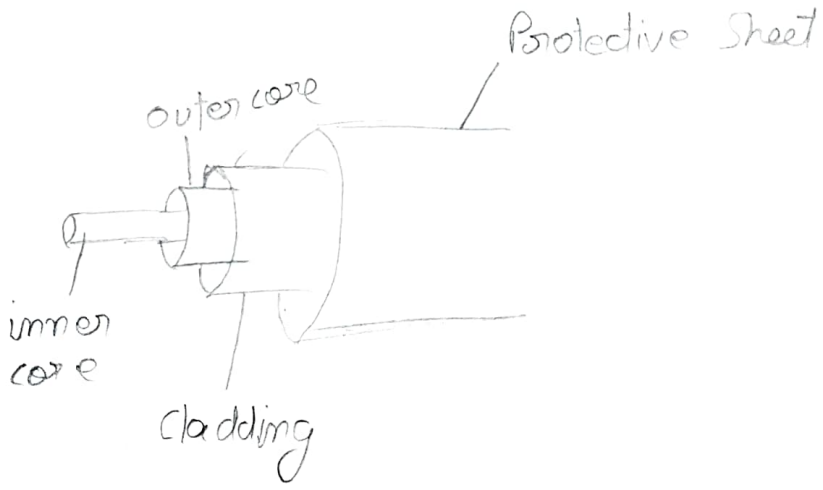


*Coaxial cable consists of 3 layers first is conductive core at the center which is made up of conductive material like copper or aluminium.

*Next that core covered ~~with the~~ with the cladding.
cladding helps the core by not breaking when twisted or Bended.

* cladding is covered with protective sheet which helps the cable from external damages

Optic fiber cable



* optic fiber carries light signal
* It consists of inner core which is made up of glass fiber
* That coverd with outer core and cladding to protect it.
* optic fiber cable is used in high data transmission media like Broadband connection.

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