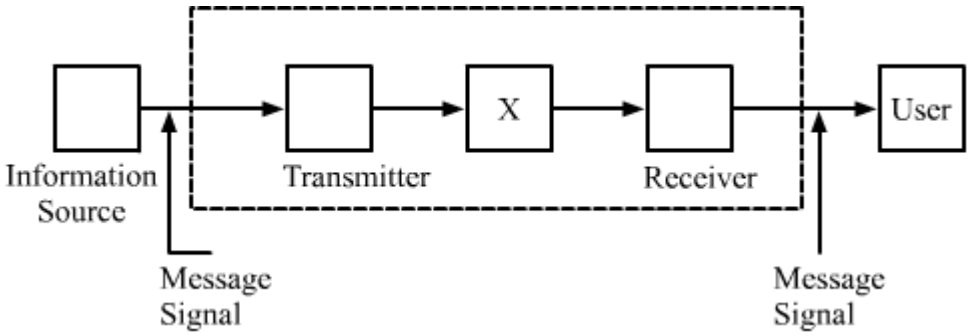
INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS

CH: COMMUNICATION

Name: _____ Date:_____ Class: XII Sec: A___

I

1. 

In the figure a generalised communication system is shown. Identify 'X' and write its function.

2. Draw a block diagram of a simple modulator for obtaining an amplitude modulated signal.
3. A message signal of frequency 10KHz and peak voltage 10volt is used to modulate carrier of frequency 1MHz and peak voltage 20volt. Determine (a) modulation index, (b) side bands produced.

4. The carrier wave is represented by C(t) = 5 sin (10πt) volt. A modulating signal is a square wave. Determine the modulation index. The amplitude of message signal is 2.
5. What is the range of values of modulation index of an AM wave?
6. What is a transducer? Give two examples.
7. A carrier wave of peak voltage 12 V is used to transmit a message signal. What should be the peak voltage of the modulating signal in order to have a modulation index of 75%?
8. What should be the height of a transmitting antenna if the TV telecast is to cover a radius of 128Km?
9. Explain why TV transmission towers are usually made high?
10. What mode of communication is employed for the transmission of TV signals?
11. Is it necessary to use satellites for long distance TV transmission? Why?
12. From which layer of atmosphere, radio waves are reflected back?
13. What is the line of sight distance in communication system?
14. Explain the green house effect of earth's atmosphere.
15. Explain the term (i) ground wave and (ii) sky wave.
16. State two factors by which the range of transmission of TV signal can be increased.

17. What is space wave communication? Write the range of frequencies suitable for space wave communication. Give two examples of space wave mode of propagation used.
18. A TV transmitter has a range of 50 Km. What is the height of the TV transmission tower?
19. A TV tower has a height of 500m at a given place. If the radius of earth is 6400Km, what is the coverage range?
20. A transmitting antenna at the top of a tower has a height of 32m and the height of the receiving antenna is 50m. what is the maximum distance between them, for satisfactory communication in LOS mode?