

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.  
(For candidates admitted during the academic year 2004-05)

SUBJECT CODE : **PH/MO/CS64**

**B.Sc. DEGREE EXAMINATION APRIL 2007**  
BRANCH III - PHYSICS  
SIXTH SEMESTER

COURSE : **MAJOR – OPTIONAL**  
PAPER : **COMMUNICATIONS SYSTEMS**  
TIME : **3 HOURS** MAX. MARKS : 100

**SECTION – A**

**ANSWER ALL QUESTIONS: (10 x 3 = 30)**

1. What is frequency modulation.
2. Define RADAR.
3. Explain what is scanning.
4. Name 2 Microwave Oscillators.
5. Mention 2 advantages of optical fibre.
6. What are synchronization pulses.
7. What are primary colours.
8. What is WAN and LAN.
9. What is meant by signal processing.
10. Define attenuation.

**SECTION – B**

**ANSWER SIX QUESTIONS: (5 x 6 = 30)**

11. Explain working of image orthicon.
12. Write note on mixing of colours.
13. Explain how light is propagated in fibres.
14. Give some application of Fibre optics.

15. Give the principles of TV transmission.
16. Explain how ground, sky and space wave is used for propagation.
17. Explain the working of Micro wave oscillator.
18. Explain the working of Klystron oscillator

### SECTION – C

ANSWER TWO QUESTIONS:

(2 x 20 = 40)

19.
  - a) Obtain RADAR range equation.
  - b) Mention some uses of radar.
20.
  - a) Give the analysis of Amplitude modulation
  - b) Mention some differences between Amplitude and frequency modulation.
21.
  - a) Give the working of colour transmitter and receiver.
  - b) What is meant by bandwidth in Television receiver.
22. write note on
  - a) Doppler radar system
  - b) TV camera
  - c) Tropospheric scatter propagation
  - d) Meridinal and skew rays.

