

**Lesson 12 – QUESTIONS**

- Q1 What are the three criteria for a receiver? Explain each criterion.
- Q2 What is Thermal Noise?
- Q3 What is the thermal noise voltage at 290deg K for a 10 kHz bandwidth and a 50-ohm load?
- Q4 Name and explain the three basic receiver configurations.
- Q5 Draw the block diagram of a superheterodyne receiver.
- Q6 Why must the local oscillator and RF stage be tuned in tandem?
- Q7 If the RF signal is  $f_c$  and the oscillator frequency is  $f_o$ , what are the two possibilities at the output of the mixer?
- Q8 What is an image frequency?
- Q9 What is an IF frequency and why is it used?
- Q10 Name the seven types of demodulators?
- Q11 Explain the slope detector?
- Q12 Why use a double superheterodyne receiver?
- Q13 What is the signal to noise ratio of a 50 uV signal and the noise level of 1 uV?
- Q14 What is AGC and how does it work?
- Q15 What is an S meter and what level is required for S9?

Q16 Why is a limiter needed?

Q17 What is phase noise?

Q18 What is a low noise amplifier?

Q19 What is de-emphasis?

Q20 Draw block diagrams for the following receivers.

CW

SSB

AM

FM

