b. a folded-dipole antenna may also be employed where unbalanced properties are needed
c. waveguides are not normally used below 1 GHz
d. coaxial lines are not normally used between 1 and 18 GHz

3. Paragraphs 2, 3, and 4 mainly describe …… .
a. the balanced and unbalanced transmission lines
b. the fundamentals of transmission lines
c. practical transmission lines for use in audio-frequency applications
d. practical transmission lines manufactured in different forms

4. It is true that ……. .
a. flashover due to a high-voltage gradient has no effect on high-power cables
b. flashover may be reduced due to the high reactive property of nitrogen
c. a high-power cable of small cross-sectional dimension can withstand serious flashover
d. a high-power cable must be made so as not to give up under flashover conditions

5. As we understand from Figure 17-2, ……. .
a. all the quantities shown cause equal problems throughout the length of the line
b. all the quantities shown are proportional to the length of the line
c. resistance along the line occurs between the two wires in the cable
d. shunt conductance along the line is due t high resistivity of wires in the cable

C. Answer the following questions orally.

1. What are the two types of transmission lines commonly used?
2. What is the use of parallel-wire line?
3. What are the advantages of rigid cables over the flexible one?
4. What does a rigid air-dielectric line consist of?
5. What is a spacer?
6. What comprises a flexible air-dielectric cable?
7. What causes the capacitance along the line?
8. How are the quantities L, R, C, and G, considered at radio frequencies?

Part II. Language Practice

A. Choose a, b, c, or d which best completes each item.

1. What is formed by two coaxial conductors is
a. a parallel-wire line b. a directional-power relay
c. a coaxial line d. a signal carrier

2. One type of ……line is the two-wire open line which is sometimes used as a transmission line between antenna and transmitter or antenna and receiver.

a. rigid air-dielectric b. flexible air-dielectric

c. parallel d. coaxial

3. The electric and magnetic fields in the two-wire parallel line extend into space for relatively great distances, and ……losses occur.

a. transmission b. power

c. reflection d. radiation

4. Any one of a class of antennas producing the radiation pattern approximating that of an elementary electric dipole is known as …… antenna.

a. rhombic b. grounded

c. dipole d. quarter-wave

5. The property of a system of conductors and dielectrics that permits the storage of electrically separated charges when potential differences exist between the conductors is referred to as…… .

a. resistance b. capacitance

c. inductance d. conductance

B. Fill in the blanks with the appropriate form of the words given.

1. Flexible

a. Concentric cables may be made, with the inner conductor consisting of ……. wire insulated from the outer conductor by a solid, continuous insulating material.

b. Early attempts at obtaining …….. employed the use of rubbed insulators between the two conductors.

2. Shield

a. The ……. pair consists of parallel conductors separated from each other and surrounded by a solid dielectric.

b. The conductors are contained within a copper braid tubing that acts as a ……..

c. The fields are confined to the space between the two conductors; thus, the coaxial line is a perfectly …….line.

3. Ground

a. The .....parts may be connected to ground without affecting operation of the device.