

COVENANT UNIVERSITY
NIGERIA

TUTORIAL KIT
OMEGA SEMESTER

PROGRAMME: PHYSICS

COURSE: PHY 427

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PHY 427: Mobile and Wireless Communication

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1. What is mobile communications?
2. Write examples of mobile communications
3. What is mobile phone?
4. SMS Service was invented by?
5. State a reason for dropped call
6. Give 3 examples of mobile phone viruses
7. What are ways you can reduce your phone bill
8. What are the popular mobile business applications
9. For a transmitting and receiving antennas with 30° difference in polarization angle calculate the mismatch loss.

10. Distinguish between 1G and 2G wireless technology
11. List some limitations of 1G technology
12. What are the uses of wireless technology?
13. What is wireless energy transfer?
14. What are the advantages of EDGE over GPRS technology?

15. List types of information messages that can be delivered in a Paging System.

16. What is Bluetooth technology?

17. List classes of Bluetooth according to their range

18. Mention 2 wireless services available

19. What is GSM?

20. Write one advantage of CDMA

SOLUTION

1. A wireless form of communication in which voice and data information is emitted, transmitted and received via microwaves. This type of communication allows individuals to converse with one another and/or transmit and receive data while moving from place to place.
3. The mobile phone or cell phone is a long-range, portable electronic device used for mobile communication.
5. When the mobile phone moves out of range of a wireless network.

7. Reduce Airtime, Talk during Off-peak Hours, Reduce Roaming, Reduce Long-distance Calls, Reduce Data Transfers
9. 1.25 dB
11. Poor Voice Quality, Poor Battery Life, Large Phone Size, No Security, Limited Capacity, Poor Handoff Reliability.
13. A. Wireless energy transfer is a process whereby electrical energy is transmitted from a power source to an electrical load that does not have a built-in power source, without the use of interconnecting wires.

15. Alert Tone Message, Voice Message, Digital String Message, Text String Message

17. Class 3, Class 2 and Class 1

19. A. GSM is an acronym which stands for "Global System for Mobile". GSM is a digital standard which is internally based on Time Division Multiple Access (TDMA) techniques. Newer GSM phones also support digital transmission through GPRS, which allows packets of data to be sent and received at moderate rates