

CONTINUOUS ASSESSMENT TEST - ANSWERS

INSTRUCTION TO STUDENTS: ATTEMPT ALL QUESTIONS.

Time: 1 hour

What do you understand by the following terms?

1. **Wireless local area networks (WLAN)** – This is wireless local area network that links two or more devices using wireless communication (no communication cables between the devices) to form a local area network within a limited area as a home, school, computer laboratory, office, campus building etc.
2. **Wireless Personal area network (WPAN)** – This is wireless personal area network that links two or more devices like the WLAN but now on a more personal level. An example is Bluetooth connection between two cell phone devices to communicate and/ or share data (like wearables such as the communication between a smart watch and a phone). In these types of connections there is the master device that is supplying the data and the slave device that is receiving the data.
3. **Mobile AD HOC Network (MANETs)** – This is a self-configuring network of mobile routers (and associated hosts) connected by wireless links, the union of which form an arbitrary topology
4. **CDMA: Code Division Multiple Access.** - CDMA refers to a multiple access method in which the individual terminals use spread-spectrum techniques and occupy the entire spectrum whenever they transmit. CDMA is a method in which users share time and frequency allocations, and are channelized by unique assigned codes. The signals of different users are separated at the receiver by using a correlator that captures signal energy only from the desired user or channel.
5. **Duplexing** – This refers to how transmission and reception events are multiplexed together.
6. **Wireless ATM (Asynchronous transfer mode)** – This is a high-performance connection-oriented switching and multiplexing technology that uses fixed packets to transport a wide range of integrated services over a single network (wirelessly).
7. **Wireless Sensor Networks** - this is a network composed of large number of small, low power, low-cost devices called sensors. The main task of WSNs is to monitor and report environmental conditions. The main characteristics of WSNs is that all the sensors belong to a group and work toward a common goal. An individual sensor has little value of its own unless it works in cooperation with other sensors in a distributed fashion. They exchange messages frequently according to the application demands and report the information to a single or to multiple sinks.
8. **Back pressure routing** – This refers to an algorithm for dynamically routing traffic over a multi-hop network by using congestion gradients. It usually refers to a data network but can apply to other types of networks as well.
9. **Opportunistic routing** - Opportunistic routing is a new paradigm in routing for wireless sensor network which chooses the node closest to the target node for

forwarding the data. It uses the broadcasting nature of wireless sensor networks. Opportunistic routing has increased the efficiency, throughput and reliability of sensor networks

10. **Transmission control protocol (TCP)** – This is a connection-oriented transport protocol which provides a reliable byte stream to the application layer. Application data submitted to the TCP is divided into protocol data units (PDUs) called segments, before transmission.