**MOTHER TERASA COLLEGE OF ARTS &SCIENCE**

**METTUSALAI-ILLUPPUR**

**SUBJECT : WIRELESS SENSOR NETWORKS**

**CLASS : II MSC CS**

1. What is Wireless sensor network?

 Wireless sensor network consists of individual sensor nodes that are able to interact with their

environment by sensing or controlling physical parameters,these nodes have to collaborate to fulfill

their tasks as usually, a single node is incapable of doing so and they use wireless communication to

enable this collaboration. In essence the nodes without such a network contain at least some

computation, Wireless communication and sensing or control functionalities.

2.Define QoS

 Quality of Service is closely related to the type of network service is the quality of that service which

is theamount and quality of information that can be extracted at given sinks about the observed objects

orarea. Therefore adapted quality concepts like reliable detection of events or the approximation

quality.

3.What are the technologies of Wireless sensor network?

 Wireless sensor network is a modern information technology which integrates sensors, wireless

communication, low-power embedded components and distributed data processing.

4. What is fault tolerance?

 The Some sensor nodes may fail or be blocked due to lack of power or have physical damage or

environmental interference. The failure of sensor nodes should not affect the overall task of the sensor

5. . List the major issues in MAC protocol for ad hoc wireless networks

 \* Bandwidth efficiency

 \*QoS support(Quality of service)

 \*Synchronization

 \* Hidden and exposed terminal problems

 \* Error prone shared broadcast channel

6. List the classification of MAC protocol?

 \*Contention based protocols

 \* Contention based protocol with reservation mechanisms

 \*Contention based protocols with scheduling mechanisms

7.Define Routing

 Routing is the process of selecting best paths in a network. In the past, the term routing

was also used to mean forwarding network traffic among networks. Routing is performed for

many kinds of networks, including the telephone network , electronic data networks and

transportation networks.

8. What are the advantages of hierarchical routing protocol?

 \* Reduction in the size of routing tables

 \* Better scalability

 \*Substantially lesser calculation and updates of routing tables

9. What is hybrid routing protocol?

 Hybrid routing protocol combines the best feature of proactive and reactive routing

 protocols. Hybrid routing protocol use distance vector for more accurate metrics to determine

 the best paths to designation network and report routing information

10. Define Classify the routing protocol for ad hoc wireless network

 \* Routing information update mechanism

 \* Use of temporal information for routing

 \* Topology information organization

 \* Utilization of specific resources

11. What is sequential assignment routing?

 The sequential assignment routing algorithm creates multiple trees, where the root of

 each tree is a one hop neighbor of the sink.

12. What is data aggregation?

 Data aggregation is the process of collecting and aggregating the useful data. It is

 considered as one of the fundamental processing procedures for saving the energy

13. List out the IEEE 802.15.4 features

\* Data rates of 250kbps, 40kbps and 20kbps

\* Two addressing modes; 16 bit short and 64 bit IEEE addressing

\* CSMA-CA channel access

\* Automatic network establishment by the coordinator.

14. Define OLSR

 The OLSR is optimized link state routing protocol which is a proactive protocol that employs

 an efficient link state packet forwarding mechanism called multipoint relaying

15. What is coverage?

 Coverage is a measure of how well the network can observe or cover an event.

 Coverage depends up on:

 \* Range and sensitivity of sensing nodes

 \*Location and density of sensing nodes in given region

16. What are the components of wireless sensor network??

 The main components of a sensor node are a microcontroller, transceiver, external memory, power source and one or more sensors.

Controller.

External memory.

Power source.

Sensors.

17. Define Sensor nodes?

 A Sensor node is a small and inexpensive device with limited resources of battery and computation

 power

18. What is MAC protocol?

 The Media Access Control (MAC) data communication Networks protocol sub-layer, also known as

the Medium Access Control, is a sub-layer of the data link layer specified in the seven-layer OSI model.

The medium access layer was made necessary by systems that share a common communications medium.

19. What are the twoparts of a MAC address?

 A MAC address is the physical address of the device. It is 48 bits (6 bytes) long and is made up of

two parts: the organizational unique identifier (OUI) and the vendor-assigned address

20. Define Localization of Wireless sensor network?

 Localization is extensively used in Wireless Sensor Networks (WSNs) to identify the current location

of the sensor nodes. A WSN consist of thousands of nodes that make the installation of GPS on each

sensor node expensive and moreover GPS will not provide exact localization results in an indoor

environment.

21. What is topology control in wireless sensor networks?

 Topology control is a technique used in distributed computing to alter the underlying network

(modeled as a graph) to reduce the cost of distributed algorithms if run over the new resulting graphs.

The term "topology control" is used mostly by the wireless ad hoc and sensor networks research

community.

22.Define clustering technology

 A cluster is a group of servers and other resources that act like a single system and enable high

availability and, in some cases, load balancing and parallel processing. See clustering. Any file stored

on a hard disk takes up one or more clusters of storage.

23. Define Trama (traffic adaptive medium access protocol)

 The traffic adaptive medium access protocol (TRAMA) is introduced for energy efficient collision free

channel access in wireless sensor networks. ... The main purpose of wireless sensor network is to collect

the information from target domain and transmit the information back to specific task.

24. What is sink node in wireless sensor network?

 Sink node is used to collect data in wireless sensor network; data collection may one hop,

 multi- hop, all sensor collect data is send to the base station called sink node. ... This may be reducing

communication traffic by using mobile sink node data collection.

25.Define CSMA- CA protocol

 Carrier-sense multiple access with collision avoidance (CSMA/CA) in computer networking, is a .

network multiple access method in which carrier sensing is used, but nodes attempt to avoid collisions

by beginning transmission only after the channel is sensed to be "idle".