Mobile Computing

UNIT 5

1. What are responsibilities of mobile operating system?

    - Managing Resources
        - Manage processor, memory, files and various types of attached devices.
    - Providing Different Interface
        - It must support different type of input methods and protocols.

2. What are all the types of kernel in operating systems?

    - Monolithic Kernel
        - Single kernel that controls all.
        - Tightly coupled services.
    - Microkernel
        - Simple minimized kernel workload.

3. What are all the special constraints of mobile operating system?

    - Limited memory.
    - Limited screen size.
    - Miniature keyboard.
    - Limited processing power.
    - Limited battery power.
    - Limited and fluctuating bandwidth of wireless medium.

4. What are all the special requirement of mobile operating system?

    - Support for specific communications protocols.
    - Support for variety of input mechanisms.
    - Compliance with open standards.
    - Extensive library support.

5. List down some commercial mobile operating systems.

    - Palm OS.
    - Symbian OS.
    - Windows Phone.
    - Android (Google).
    - iOS (Apple).

6. What is windows CE?

Windows Embedded Compact, formerly Windows Embedded CE and Windows CE, is an operating system subfamily developed by Microsoft as part of its Windows Embedded family of products. Unlike Windows Embedded Standard, which is based on Windows NT, Windows Embedded Compact uses a different hybrid kernel.

7. What are all the special features of Palm OS?

- Simple, single-tasking environment to allow launching of full screen applications with a basic, common GUI set
- Monochrome or color screens with resolutions up to 480x320 pixel
- Handwriting recognition input system called Graffiti 2
- Sound playback and record capabilities

8. Write a short note on Symbian OS.

The Symbian OS is the operating system developed and sold by Symbian Ltd. The OS is used primarily by Nokia with its S60 user interface and by Sony Ericsson with its UIQ user interface, but the Symbian OS is also used by a number of Japanese mobile phone manufacturers for handsets sold inside of Japan.

9. What are all the special features of Symbian OS?

- It supports communication protocols like TCP, UDP, PPP, DNS, FTP, WAP.
- It supports Bluetooth, InfraRed, USB Connectivity.
- Low power mode of CPU switch available.
- Low on power and memory requirement applications (OOPS) based.
- Event based applications run by active objects.
- Carbide is an IDE supports for C++ development.
- Eclipse plug-in is available for development.

10. Write a short note on kernel of android OS.

Android is a mobile operating system developed by Google, based on the Linux kernel and designed primarily for touchscreen mobile devices such as smartphones and tablets. Android's user interface is mainly based on direct manipulation, using touch gestures that loosely correspond to real-world actions, such as swiping, tapping and pinching, to manipulate on-screen objects, along with a virtual keyboard for text input.

11. What is M-Commerce?

M-commerce (mobile commerce) is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and personal digital assistants (PDAs). Known as next-generation e-commerce, m-commerce enables users to access the Internet without needing to find a place to plug in.

12. List down some B2C applications.

- Advertising
- Comparison shopping
- Information about a product
- Mobile Ticketing
- Loyalty and payment service
- Interactive advertisements
- Catalogue shopping

13. List down some B2B applications.

- Ordering and delivery confirmation.
- Stock tracking and control.
- Supply Chain Management (SCM).
- Mobile inventory management.

14. What are all the feature required for mobile to enable M-Commerce?

- Good Internet Connectivity.
- Ability to display rich content such as images.
- Ability to read RFID tags.
- MMS and SMS Services.
- Ability to scan bar codes.
- Ability to interact Point-of-Service (PoS) terminals.

15. What is Mobile Payment?

Mobile payment (M-Payment) is defined as any payment instrument where a mobile device is used to initiate, authorize and conform an exchange of financial value in return for goods and services.
Devices used for,

- Mobile phones.
- Personal Digital Assistants (PDA).

16. List down the Mobile Payment Schemes.

- Bank account based.
- Credit Card based.
- Micropayment.

17. What is Micropayment?

A micropayment is an e-commerce transaction involving a very small sum of money in exchange for something made available online, such as an application download, a service or Web-based content.

18. What are all the security issues of M-Commerce?

- Privacy Risks.
- Mobile devices difficult to find on the move.
- Mobile devices go online and offline frequently.
- Attacks would be very difficult to trace.
- Risk of mobile loss and theft.
- Fraud payment from stolen mobile is more difficult to track.
- Lack of any satisfactory mechanism to authenticate a particular user.

PART - B

1. Explain about,
    a. Mobile Operating Systems (8).
    b. Special Constraints and Requirements of Mobile OS (8).
2. Explain about,
    a. Special Constraints and Requirements of Mobile OS (8).
    b. Give brief explanation about commercial operating systems (8).
3. Explain about,
    a. Commercial operating systems (8).
    b. M-Commerce (8).
4. Explain about,
    a. M-Commerce (8).
    b. M-Payment System (8).
5. Explain about,
    a. M-Payment System (8).
    b. B2C applications of M-Commerce (6).
    c. Security issues in M-Commerce (2).