DSVV

COVID – 19 (ONLINE EXAMINATION)

देव संस्कृति विश्वविद्यालय

शान्तिकुन्ज, हरिद्वार

आन्तरिक मूल्यांकन परीक्षा – INTERNAL EVALUATION TEST

उत्तर–पुस्तिका

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Signature of student's

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Signature of Examiner

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Short Answer Questions

Q1 Explain the key terms in Cordless Phones.

A wireless telephone that transmits to and receives signals from a base station within a range of a few hundred feet. The first landline phones not tethered to the desk or wall, cordless phones were invented in the 1950s but it did not take hold until the 1980s.

→ Initially analog devices transmitting at very low frequencies, the 900 MHz band was chosen as the standard by 1990.

→ Cordless phones subsequently migrated to digital and higher frequencies from 1.8 to 5.8 GHz.

→ Contrast with "corded phone", which is wired to a table-top or wall unit.

→ Cordless telephones are one of those minor miracles of modern life – with a cordless phone, you can talk on the phone while moving freely about your house or in your yard.

It is the combination of telephone & radio transmitter / reciver.

A Cordless phone has two major parts.
① base ② handset.

Base - is attached to the phone jack through a standard phone wire connection, and as far as the phone system is concerned it look just like a normal phone.

Handset receives the radio signal from the base, converts it to an electrical signal & sends that signal to the speaker where it is converted into the sound you hear.

The base & handset operate on a frequency pair that allows you to talk & listen at the same time called duplex frequency

It use radio to connect a portable handset to a dedicated base station which is then connected to a dedicated telephone line with a specific telephone number on the public switched telephone network (PSTN).

② Discuss the role of PSTN in Current Wireless System.

PSTN (Public switched telephone network) is the world's collection of interconnected voice oriented public telephone networks. PSTN stands for public switched telephone network, or the traditional circuit-switched telephone network.

PSTN comprises all the switched telephone networks around the world that are operated by local, national or international carriers.

In the modern world the PSTN remains to be the primary solution for connecting people across the world through voice communications. Of course, it is not the only solution out there. Several of the biggest private telephone networks aren't linked to the PSTN - typically for military reasons. There are also a range of private networks run by large companies that link to the PSTN through limited gateways, such as a private branch exchange.

Today, it is even possible for digital applications to connect to the PSTN networks. For instance, Skype for

Business users can now utilise a Microsoft plugin that allows them to call mobile & landlines as well as other computers, laptops, & smartphones. Alternatively, there are cloud connectors solutions that allow business to use their office applications normally, while experiencing the benefits of a third-party PSTN breakout

Long Question Answer

Q.1 Discuss the limitations in Wireless Systems and what will be the future of mobile Computing.

Limitations of wireless Systems.

- **Reliability** – Wireless communications is inherently lossy. Assuming a packet based communication protocol, some of the packets will arrive, and some will not.

- **Distance** – Every wireless signal has a maximum distance that it can effectively travel, given a specific ~~enior~~ environment and specific sending and receiving antennas. The better and more directional your antennas are, the further you can push a signal and still receive it.

- **Obstacles** – All wireless frequencies are blocked to some degree by objects in their path. Some work almost exclusively when you have "line of sight", meaning no solid obstacles in the way.

⊙ Interference -
All wireless devices experience interference from other wireless signals at the same frequency. These can come from the sun, stars, your microwave oven, electronic devices, and other wireless devices.

⊙ Bandwidth -
All wireless devices are limited in the amount of band width (range of frequencies) they can effectively use. This is limited by the physics of your transmitter & transmitter but also by local laws in your area.

⊙ More open to interference
⊙ Increased Chance of Jamming
⊙ Transmission speed is comparably less.

Wireless signals can be easily hacked and hence it will hamper privacy.

Wireless networks require careful radio frequency planning at the beginning of the Installation.

Wireless Communication is subject to interference. These are various receiver techniques & modulation techniques which make wireless system robust against any kind of interference.

Future of Mobile Computing

1) Some features of future mobile computing devices -

- Core network convergence
  IP-based, quality of services, mobile IP
- Ad-hoc technology
  Spontaneous communication, power saving, redundancy
- Simple & Open Service platform
  Intelligence at the edge, not in the network.
- Hardware
  Lighter, Smaller, Energy management, user interface.

2) High bandwidth facility

3) Shift industrial paradigm from piecewise solutions to end-to-end information systems.

4) Improved radio technology & antennas
  Smart antennas, beam forming, multiple-input multiple-output