

Total number of printed pages-3

53 (EC 713) WRSY

2019

WIRELESS SYSTEM

Paper : EC 713

Full Marks : 100

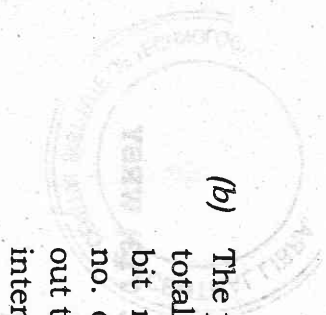
Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer any five questions.

1. (a) Explain TDMA and FDMA systems. Cite their relative advantages, disadvantages and respective application areas. 10
- (b) Find out expressions for efficiency and no. of channels for TDMA system. 10
2. (a) Write about Packet radio access techniques. Find out maximum efficiency for pure ALOHA and slotted ALOHA systems. 15

Contd.



- (b) The parameters for an IS-95 system are—
total available bandwidth = 1.25 MHz,
bit rate = 9600 bps, $SIR_{bit} = 10dB$,
no. of sectors = 5 and $V_f = 3/8$. Find
out the no. of users supported, avoiding
interference and noise. 5
- 3. (a) Describe various Wireless Data
Services. 12
- (b) Cite the channel characteristics of
CDPD, ARDIS and RMD systems. 8
- 4. (a) Describe Bluetooth Protocol Stack.
- (b) What are the security requirements of
Wi-Fi networks? Explain. 10
- 5. (a) Write about Wi-Fi and WIMAX systems.
What are their major differences? 12
- (b) Explain the Bluetooth packet format. 8
- 6. (a) Explain the two schemes for Spread
Spectrum Multiple-Access. 10

53 (EC 713) WRSY/G 2



- (b) How can the capacity of DS-CDMA
system be increased? 6
- (c) Find out the total no. slots for a GSM
system having 25MHz forward link. Per
channel bandwidth is 250kHz and 8
speech channels are supported per
radio channel. No guard band is
assumed. 4
- 7. (a) List and briefly define IEEE802.11
services. 8
- (b) Explain pulse shaping and windowing
to OFDM systems. 12

53 (EC 713) WRSY/G 3 100