B.E/VII (Rev) May '07 (EXTC) Mobile commⁿ system
I.T. EXAM.

Con. 2574–07. **(REVISED COURSE)** **ND–935**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. **1** is **compulsory.**
(2) Attempt any **four** out of remaining **six** questions.
(3) Assume **suitable** data wherever **necessary** and **justify** it.

1. (a) Explain, how a cellular telephone call is made. 20
(b) Discuss the practical handoff considerations.
(c) List and explain the factors influencing small scale fading.
(d) Why power control subchannel is used in CDMA ?
(e) Compare radio interface specifications of AMPS and ETACS.

2. (a) What is interference ? How it affects the system capacity ? Discuss the cochannel interference. 10
(b) Discuss the different methods for improving coverage and capacity in cellular system. 10

3. (a) For the two-ray ground reflection model, derive the expression for received power at a distance 'd' from the transmitter. 12
(b) Explain the DECT standard covering radio and signal aspect. 8

4. (a) With a neat block diagram, explain the modulation process in a reverse CDMA channel. 10
(b) List the features of Global star mobile satellite system and explain the network architecture for Global star system. 10

5. (a) Explain different GSM channel types. 12
(b) Discuss the layer 1 signalling in CT2. 8

6. (a) Discuss the following parameters for CDMA based mobile system : 10
(i) Orthogonal covering
(ii) Direct sequence spreading in reverse traffic channel.
(b) With a neat diagram, explain the subscribe identity module and how the authentication is provided ? 10

7. Write short notes on (any **four**) : 20
(a) Security in GSM
(b) Supervisory signals in AMPS.
(c) Features of ICO and teledesic system
(d) Knife edge diffraction model
(e) Irridium system
(f) Doppler spread and coherence time.