

B.TECH SEM - VIII (2007 COURSE) (E & TC ENGG.):

WINTER - 2017

SUBJECT : CELLULAR MOBILE COMMUNICATION

Day : **Tuesday**
Date : **21/11/2017**

W-2017-2712

Time : **02.30 PM TO 05.30 PM**
Max. Marks : **80**

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures the right indicate **FULL** marks.
- 4) Assume suitable data if necessary.

SECTION – I

- Q.1** a) What are different tones used in tone dialing and Dual Tone Multi frequency dialing schemes? **[04]**
- b) A call processor in a exchange requires 120m sec to service a call. What is the BHCA rating for the processor? If exchange is capable of carrying 700 Erlang of Traffic what is CCR when average call holding time is 2 minutes? **[06]**
- c) Write a short note on ISDN. **[04]**
- Q.2** What is the concept of Time Division Time Switching and Time Division Space Switching? Draw relevant diagrams. **[13]**
- Q.3** a) What s Erlang and Erlang B? Define CCR, BHCA and Grade of Service in relation to Traffic Engineering. **[07]**
- b) During one hour of busy period 800 calls arrive in an exchange. If average holding time per call is 3 minutes, what is the traffic handled in Erlang and CCS? **[06]**
- Q.4** a) What are different services provided by ISDN? What are different types of ISDN terminals used so that it can be inter operable with PSTN and IDN **[07]**
- b) Explain various ATM layers. **[06]**

SECTION – II

- Q.5** a) What are different value added services offered by GSM? **[04]**
- b) Justify statement that, spread spectrum has better resistance to interference, jamming and fading? **[05]**
- c) What are half rate and full rate CODEC? **[04]**
- Q.6** Draw GSM Architecture, show interfaces used in between MS to BSS and BSS to NSS. Give function of each block of GSM. **[13]**
- Q.7** What is near and far problem in CDMA? What improvement are achieved in CDMA 2000 over IS – 95? **[13]**
- Q.8** Draw various configurations of VoIP? What are the various features of VoIP? **[13]**

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