D 11934 (Pages : 2) Name.....

Reg. No.....

SEVENTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, NOVEMBER 2016

CS/PTCS 09 701—WIRELESS NETWORKS AND MOBILE COMMUNICATION SYSTEMS

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *questions.*
Each question carries 2 *marks.*

1. Highlight the benefits of digital PCS systems.
2. Differentiate between Hard Hand-off and Soft Hard-off techniques.
3. Why is SS7 classified as a common channel signalling protocol ?
4. What are the differences between fixed-network number portability and mobile number portability ?
5. Compare the channel request procedure in GPRS with that in GSM.

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*
Each question carries 5 *marks.*

6. With a neat sketch, explain the basic PCS architecture.
7. Describe the principle of operation involved in the MCHO, NCHO and MAHO handoff detection strategies.
8. Write a note on Radio Resource Allocation.
9. Compare the authentication procedures in IS-41 and GSM.
10. Describe the code formats of MSRN and MSISDN. Explain why they have the same format.
11. Draw the message flow for the SGSN-initiated and MS-initiated PDP context deactivation procedures.

(4 × 5 = 20 marks)

Part Ç

Answer **all** *questions.*
Each question carries 10 *marks.*

12. (a) Explain in detail about roaming management.

Or

(b) Describe the four channel assignment schemes. Under what circumstances is the reserved channel scheme more desirable than the others ?

Turn over

13. (a) Describe the PACS architecture and the network interfaces.

Or

(b) With a neat sketch, explain the Cellular Digital Packet Data Architecture and also the CDPD air interface.

14. (a) Write in detail about GSM Short Message Services.

Or

(b) Explain about the basic location update procedure and basic call origination and termination procedures in GSM.

15. (a) Explain the GPRS architecture and the GPRS transmission plane in detail.

Or

(b) Describe the major GPRS interfaces in detail.

(4 × 10 = 40 marks)