2016/ODD/08/24/MCS–704 (C)/
MS–104 (C)/596

PG Odd Semester (CBCS) Exam., December—2016

COMPUTER SCIENCE

(7th Semester/1st Semester)

Course No. : MCS–704 (C)/MS–104 (C)

(Wireless and Mobile Computing)

Full Marks : 75
Pass Marks : 30

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, selecting **one** from each Unit

UNIT—I

1. *(a)* What are the different types of cell structures used in cellular communications? Explain with examples. 6

(b) With proper diagrams, explain the working of multichannel chordless telephone system. What are the differences between chordless and cellular communication systems? 5+4=9

2. *(a)* Compare and contrast between ad-hoc and infrastructure wireless networks with diagrams. 7

(b) Explain the following with respect to cellular mobile communications (any *two*) : 4×2=8

(i) Frequency reuse (with diagram)

(ii) AUC

(iii) HLR & VLR

(iv) EIR

UNIT—II

3. *(a)* Explain the concepts of third-generation wireless systems. 5

(b) Explain the working principles of—

(i) Wi-Fi;

(ii) bluetooth. 5+5=10

4. *(a)* What are the features of RF and IR wireless LAN? 6

(b) What are the advantages and applications of wireless LAN? 6

(c) How is 4G wireless systems better than 3G? 3

UNIT—III

5. *(a)* How does handover occur between Inter BSC but Intra MSC scenario? Explain with proper diagram. 7

(b) With diagrams, explain MOC and MTC. 4+4=8

6. *(a)* What are the functions of MSC and OSS in GSM? 5

(b) Explain the concepts of mobility management. 10

UNIT—IV

7. *(a)* Classify the various types of mobile data network. 6

(b) What are the components of WLL? Explain with a diagram. What are the problems in WLL? 7+2=9

8. *(a)* Define *(i)* fading, *(ii)* adjacent chanel interference and *(iii)* propagation attenuation. 2×3=6

(b) Why do cochannel interference occur? Explain with a diagram. 4

(c) What are the components of mobile IP? Explain. 5

UNIT—V

9. *(a)* What is GPS? Explain how GPS works. How is position fixing done in GPS? 2+4+4=10

(b) Explain the concepts of VSAT. 5

10. *(a)* What are the applications of GPS? 3

(b) Compare and contrast among GEO, MEO and LEO. 12

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