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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech(ECE)(2018 Batch) (Sem.–1)

COGNITIVE RADIOS

Subject Code : MTEC-PE2Y-18-1

M.Code : 75177

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWELVE marks.**

1. a) How spectrum sensing in cognitive radio networks is potentially significant in research domain?
   b) How can we model the mobility of secondary users in cognitive radio networks?
2. a) How is noise spatially correlated in wireless channel?
   b) Discuss different optimization techniques of dynamic spectrum allocation.
3. a) Differentiate between centralized and distributed dynamic spectrum access.
   b) What is the difference between co-operative and collaborative spectrum sensing in cognitive radio networks?
4. a) Write a short note on : (i) Spectrum trading (ii) Radio resource pricing.
   b) Explain channel selection in cognitive radio networks with opportunistic RF energy harvesting.
5. a) Discuss potential applications of cognitive radio networks.
   b) Give a brief discussion on classification of auctions.
6. a) Discuss the role and techniques of enhancing efficiency in spectrum sensing decision making process of cognitive radio networks.
   b) Discuss the relation between number of samples and SNR in cognitive radio spectrum sensing.
7. a) Explain the architecture and functions of cognitive radio in detail. What are the frequency bands assigned to cognitive radio in terms of standard IEEE bands.
   b) Discuss the cross layer design for cognitive radio networks.
8. a) Explain dynamic spectrum access and management in cognitive radio networks.
   b) Why there is need for spectrum access protocol in cognitive radio networks?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.