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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

Paper ID : [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.

- Q1 a) Explain the cognitive radio architecture and explain each term in detail. (8)
b) Explain spectrum sensing. (4)
- Q2 Explain the following :
a) Function of cognitive radio. (4)
b) Spectrum analysis and decision. (4)
c) Dynamic spectrum access. (4)
- Q3 a) Why geo-location database is an essential part of spectrum sensing? (6)
b) Explain spectrum sharing business model in spectrum sensing. (6)
- Q4 a) Explain collaborative sensing. (6)
b) How spectrum holes are detected in spectrum sensing? (6)
- Q5 What are the different optimization techniques of dynamic spectrum allocation? Explain dynamic programming and stochastic programming models. (12)
- Q6 a) Explain spectrum broker in dynamic spectrum access. (6)
b) Differentiate between centralized dynamic spectrum access and distributed dynamic spectrum access. (6)
- Q7 a) Explain the requirement and methods of spectrum trading. (6)
b) Explain auction theory in detail. (6)
- Q8 a) Explain crosslayer design for cognitive radio networks. (6)
b) Differentiate between network layer and transport layer along with its issues. (6)