

28/4/19

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B.E (FT) END SEMESTER EXAMINATIONS – APRIL 2019

Electronics and Communication Engineering

Semester - VII

EC 8008 Cognitive Radio Communication

(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What is Software Defined Radio? Mention its applications.
2. List the typical components of SDR.
3. What are the architecture goals of SDR?
4. Mention the uses of Plug and Play module.
5. What is meant by optimization of radio resources?
6. Define cognitive radio. Mention its features.
7. List out any three design rules in cognitive radio.
8. Enumerate the functions of Prayer Behavior.
9. What is meant by vertical and horizontal spectrum sharing?
10. Distinguish the three types of spectrum holes.



Part – B (5 x 16 = 80 marks)

11. i) Explain the evolution of SDR and highlight its features. (10)
ii) Explain the five tiers of the SDR. (6)
12. a) Draw and explain the architecture of SDR with suitable examples.
(OR)
b) Explain the essential functions of the Software Radio.
13. a) Explain about environment aware computing used in cognitive radios.
(OR)
b) Explain about optimization of radio resources. Explain the role of artificial intelligence in the design of cognitive radios.

14. a) Explain how cognitive functions are implemented using cognitive components.

(OR)

b) What is cognition cycle? Explain the various phases involved in cognition cycle with neat diagram.

15. a) i) Explain the spectrum mobility and management functions of cognitive radio. (8)

ii) Explain the Upper layer issues in xG Networks. (8)

(OR)

b) Draw and explain the next generation network architecture and its components.

