

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- April 2019

B.Tech VIII Semester

COURSE CODE: 14BIWEC733

MAX. MARKS: 25

COURSE NAME: Cognitive Radio Networks

COURSE CREDITS: 03

MAX. TIME: 1.5 hr.

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*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

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- Q1. What is an ideal SDR architecture? Comment on its various components. (3)
- Q2. What do you understand by software tunable analog radio components? What are various methods and challenges to have software tunable impedance synthesizer, data converters and antenna system? (5)
- Q3. In what way multiple antenna system is employed to enhance the performance of cognitive radio system. Explain. (4)
- Q4. Compare the reconfigurable digital radios employing different processors. Mention pros and cons of each. (3)
- Q5. Give the mathematical formulation of false alarm probability, detection probability and minimum number of samples for energy detection spectrum sensing approach. (3)
- Q6. What is the need of cross-layer design in cognitive radio communication system? Give the major advantages and drawbacks of traditional layered architecture. (4)
- Q7. Describe the need of signalling, source coding and channel coding methods in digital radio system. (3)