

**B.TECH. SEM -VII ELECTRONICS 2014 COURSE (CBCS) :**  
**SUMMER - 2018**  
**SUBJECT : ADVANCED COMMUNICATION SYSTEM**

Day : **Thursday**                      **S-2018-2502**                      Time : **02.30 PM TO 05.30 PM**  
Date : **24/05/2018**                      Max. Marks : 60

---

**N. B. :**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Assume suitable data if necessary.
- 

**Q. 1**      What are TEM, TE, TM modes? Sketch the field patterns for dominant modes in a rectangular waveguides.                      **(10)**

**OR**

- a) What is wave guide? Explain the parameters of rectangular wave guide.                      **(06)**
- b) Explain the advantages of waveguide over coaxial cables.                      **(04)**

**Q. 2**      What do you understand by system noise temperature? Derive the relation for equivalent system noise temperature.                      **(10)**

**OR**

- a) Explain in detail various satellite subsystems.                      **(05)**
- b) What are look angles? Explain in detail.                      **(05)**

**Q. 3**      How is the uplink design different from the downlink design?                      **(10)**

**OR**

Draw the general arrangement of position location with GPS and explain about GPS in detail.                      **(10)**

**Q. 4**      Enumerate the physical and link layer parameters to improve performance of communication link in cognitive radio.                      **(10)**

**OR**

- a) What is location awareness in cognitive radio?                      **(04)**
- b) Explain the advanced services would be enabled by ideal cognitive radio.                      **(06)**

**Q. 5**      a) Discuss in detail the principle of working of OFDM.                      **(06)**

b) Comment on efficiency gain in Software Defined Radio and Cognitive radio.                      **(04)**

**OR**

Enumerate the primary functions of cognitive radio with diagram.                      **(10)**

**Q. 6**      Describe the GPRS architecture in detail.                      **(10)**

**OR**

Explain the concept of CDMA. What are its merits and demerits?                      **(10)**

\* \* \* \* \*

---