

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
SEVENTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), DECEMBER 2019

**Course Code: EE401**  
**Course Name: Electronic Communication**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 5 marks.*

Marks

1. Obtain the expression for amplitude modulated wave. (5)
2. Draw and explain the basic block diagram of FM receiver. (5)
3. Explain the need of blanking pulses in the scanning process of television system. (5)
4. Explain with sketch, the principle of Pulse Amplitude Modulation (5)
5. Compare the basic principles of TDMA and FDMA. (5)
6. Explain the principle of any two Photo-detection methods in optical fiber communication. (5)
7. Explain the working of GPS system. (5)
8. Explain the term cell sectoring in cellular telephone system. (5)

**PART B**

*Answer any two full questions, each carries 10 marks.*

9. a) Explain vestigial side band modulation. Mention its advantages. (5)  
b) Show that the maximum transmitting power of an AM signal is 1.5 times the carrier power. (5)
10. a) Explain the phase shift method for the generation of SSB AM. (5)  
b) Explain the significance of modulation index in frequency modulation. (5)
11. a) Explain the working of Foster Seeley discriminator with circuit diagram and relevant vector diagrams. (10)

**PART C**

*Answer any two full questions, each carries 10 marks.*

12. a) Explain the basic performance factors of RADAR and derive the radar range equation. (10)
13. a) Draw and explain the block diagram of cable TV. (5)  
b) With schematic, explain the concept of pulse position modulation. (5)

14. a) Explain the process involved in pulse code modulation. (10)

**PART D**

*Answer any two full questions, each carries 10 marks.*

15. a) With block diagram, explain the encoding and decoding process in CDMA technique applicable to satellite communication. (10)
16. a) Explain the block diagram of fibre optical link. (5)  
b) Explain the Bluetooth based communication systems. (5)
17. a) Describe any two call processing methods in a cellular telephone system. (5)  
b) Explain the various interferences associated with cellular communication. (5)

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