



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

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

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

B.Tech S7 (S) Exam Sept 2020

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

Max. Marks: 100

Duration: 3 Hours

**PART A***Answer all questions, each carries 5 marks.*

- |   | Marks |
|---|-------|
| 1. Define AM and derive the equation for AM wave.   | (5)   |
| 2. Explain with a neat sketch, the working of super heterodyne receiver.                        | (5)   |
| 3. Draw and explain the block diagram of HDTV transmitter or receiver.                          | (5)   |
| 4. Write short note on natural sampling and flat top sampling process in digital communication. | (5)   |
| 5. Explain different types of optical fibre.  | (5)   |
| 6. Draw and explain the block diagram of earth station.   | (5)   |
| 7. Explain the architecture of Zigbee system.   | (5)   |
| 8. Explain with schematic, the architecture of Bluetooth.                                       | (5)   |

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

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| 9. a) With the help of a block diagram, explain "phase shift method" of SSB generation. Show mathematically how one of the sideband is cancelled in this method. | (10) |
| 10. a) Compare and contrast between SSB and VSB.   | (5)  |
| b) Explain the operation of balanced slope detector.   | (5)  |
| 11. a) Explain the generation of FM using Armstrong method with suitable block diagram.  | (10) |

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

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| 12. a) Explain the block diagram of monochrome TV receiver.  | (10) |
| 13. a) Derive the radar range equation and mention factors affecting range of a radar.                         | (5)  |
| b) Explain with diagram, different pulse modulation techniques.  | (5)  |
| 14. a) With neat sketches, explain the complete system of transmission and reception of pulse code modulation. | (6)  |
| b) Differentiate between PAM, PWM and PPM  | (4)  |

**PART D**

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

- 15 a) Explain CDMA satellite system with block diagram. (10)
- 16 a) With block diagram, explain the working of an optical fibre communication system (5)
- b) Differentiate between Wi-fi and Wi-max. (5)
- 17 a) Explain different techniques to improve the capacity in cellular system. (10)

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