

Roll No. \_\_\_\_\_

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**SVIS-N- 322 A-19**  
**B.Sc. VI Semester Degree Examination**  
**ELECTRONICS**  
**(Advanced Electronic Communication)**

**Paper - 6.1**  
**(NEW)**

**Time : 3 Hours**

**Maximum Marks : 80**

*Instructions to Candidates:*

1. Answer **All** questions from section-A
2. Answer any **FIVE** questions from section-B
3. Answer any **FOUR** questions from section-C

**SECTION-A**

1. Choose the correct answer:

**(5×1=5)**

- i. Matched filter is used to ----- SNR.
  - a) Maximise
  - b) Minimise
  - c) Equal
  - d) None
- ii. Synchronous type of data transmission uses a ----- to control timing of bits being sent.
  - a) Data
  - b) Clock
  - c) Machine
  - d) None
- iii. Microwave radiation penetrates -----
  - a) Fog
  - b) Cloud
  - c) Ionosphere
  - d) All the above

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**(1)**

**[Contd....**

- iv. The resolution of a pulsed RADAR can be improved by -----
- a) Increasing pulse width
  - b) Decreasing pulse width
  - c) Increasing pulse amplitude
  - d) None
- v. FDMA channel uses ----- bandwidth.
- a) Small
  - b) Medium
  - c) Large
  - d) None

2. Fill in the blanks: (5×1=5)

- i. ----- is a digital pulse modulation.
- ii. PSK system uses a phase shift of ----- degree.
- iii. Gunn diode has electrodes made of -----
- iv. RADAR beacon is often called -----
- v. The inner portion of optical fiber cable is called -----

3. State True or False: <http://www.karnatakastudy.com> (5×1=5)

- i. Power consumption is less in pulse modulation.
- ii. In PSK modulation bit rate is four times the band rate.
- iii. Microwave repeaters are used to overcome the problem of line of sight.
- iv. Pulsed RADAR does not give the information about targets' range and velocity.
- v. Multimode step index fiber has large core diameter and large NA.

### SECTION -B

(5×5=25)

- 4. Draw block diagram of a typical digital communication system and explain each block.
- 5. What is a digital carrier system and why it is necessary?
- 6. Explain construction and working of Gunn diode.
- 7. Explain about the factors affecting the performance of a RADAR.
- 8. Draw the block diagram of satellite uplink system and explain.
- 9. Write a short note on LAN.
- 10. Explain acceptance angle of an optical fiber cable.

**SECTION -C**

**(4×10=40)**

11. Explain with a neat block diagram pulse amplitude modulation and demodulation. Also draw waveforms.
12. Explain with a neat block diagram and waveforms an amplitude shift keying (ASK) modulator and demodulator system.
13. Write a note on microwave repeater stations.
14. Write a note on:
  - a) Moving target indication
  - b) RADAR beacons
15. Mention the types of satellite orbits. Explain the significance of them.
16. What is numerical aperture (NA)? Derive an expression for NA.

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