C 80697 (Pages : 2) Name.....

Reg. No.....



# FOURTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, APRIL 2015

## IT 09 404—PRINCIPLES OF COMMUNICATION ENGINEERING

Time : Three Hours Maximum : 70 Marks

### Part A

*Answer* **all** *questions.*

1. List the different spectra used for different applications.
2. State the need for modulators.
3. Mention the use of radio detector.
4. Differentiate low-level modulation and high-level modulation.
5. Define TDM and FDM.

(5 × 2 = 10 marks)

### Part B

*Answer any* **four** *questions.*

6. Explain the block diagram of a modern communication system.
7. Explain the working of the FM modulation technique.
8. How is a PWM wave converted to a PPM wave ? Explain.
9. Explain the working of linear detectors.
10. Explain the principle of operation involved in demodulation.
11. Explain the working of the class RF amplifier.

(4 × 5 = 20 marks)

### Part C

*Answer* **all** *questions.*

12. (a) Explain the working of the FSK and PSK techniques.

*Or*

(b) Explain the working of the PCM technique and mention its properties.

13. (a) Explain the reactance modular method and Armstrong method used for generation of FM waves.

*Or*

(b) With a neat sketch, explain the working of balanced modulators.

**Turn over**

14. (a) Explain the working of synchronous and envelope detectors.

*Or*

(b) Explain the Foster-Seely discriminator method in detail.

15. (a) With a neat sketch, explain the working of the superheterodyne AM receiver.

*Or*

(b) With a neat sketch, explain the working of class B push pull linear amplifier.

(4 × 10 = 40 marks)