C 61589 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION APRIL 2014

(2009 Scheme)

IT 09 404—PRINCIPLES OF COMMUNICATION ENGINEERING

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *questions.*

1. Define Modulation index.
2. List the properties of PCM.
3. State the purpose of using carriers.
4. Define Demodulation.
5. What is meant by diversity reception ?

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*

6. Draw the electromagnetic spectrum and mention the use of different spectra for different applications.
7. Explain the working of PAM in detail.
8. Write a note on balanced modulators.
9. Explain the working of slope detectors.
10. How are AM waves demodulated ? Explain any one method.
11. Explain the working of AM transmitters.

(4 × 5 = 20 marks)

Part C

12. (a) With appropriate examples, explain the working of TDM and FDM.

Or

(b) Explain the block diagram of a modern communication system.

13. (a) How is a FM converted to PM ? Explain any one method.

Or

(b) Write about the working of square law modulations.

Turn over

14. (a) Explain the working of synchronous and envelope detection in detail.

Or

(b) Explain the demodulation of PAM and PPM signals.

15. (a) Write in detail about the working of class B push-pull linear amplifier.

Or

(b) Explain in detail about the working of straight receiver and superheterodyne AM receiver.

(4 × 10 = 40 marks)