Reg. No. : ....

Name : ....

Fourth Semester B.Tech. Degree Examination, February 2015
(2008 Scheme)
Branch : Electronics and Communication
08.406 : ANALOG COMMUNICATION (T)
(Special Supplementary)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carry **4** marks.

1. What is nonsinusoidal modulation ? Illustrate with an example.

2. What is diagonal peak clipping in AM demodulators ? How it could be avoided ?

3. What is FDM ? Suggest an application in which FDM is used.

4. An FM broadcast system has a maximum frequency deviation of 75 KHz and the maximum modulation frequency allowed is 15 KHz. Calculate the maximum bandwidth.

5. Discuss the concept of ratio detector circuit.

6. With a diagram, explain the working of AGC system in FM receivers.

7. What are amplitude limiters ? Why it is used in FM communication systems ?

8. Calculate the noise power generated from a resistor of $100\,\Omega$ at 300° K for a bandwidth of 1 MHz.

9. Explain the working of cordeless phones.

10. Discuss briefly about tone signalling and frequency assignment for a telephone.

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PART – B

Answer **any two** questions from **each** Module. **Each** question carry **10** marks.

Module – 1

11. A standard AM system is sinusoidally modulated to a depth of 40%, produces side frequencies 4.928 and 4.914 MHz. Amplitude of each side frequency is 75 V. Determine the amplitude and frequency of the carrier.

12. With appropriate diagram, illustrate the working of SSB generation system.

13. With the help of necessary diagrams, explain the working of a PCM receiver.

Module – 2

14. From fundamentals, derive expression for a sinusoidally modulated FM wave.

15. What are FM broadcast receivers ? Explain its working with the help of a suitable diagram.

16. With necessary circuit diagram, explain the working of a varactor diode phase modulator.

Module – 3

17. a) Explain how flicker noise affects the performance of a radio receiver.

    b) What is signal to noise ratio ? Explain its significance in a communication system.

18. With appropriate mathematical relations, discuss the effect of noise on SSB receiver.

19. With suitable diagrams, explain about an electronic exchange.