## Government College of Engineering Department of Information Technology Class Test I (Winter 2046 47)

Class Test-I (Winter 2016-17)
Sub: ITU301 COMMUNICATION ENGINEERING

Solve any three (each of 5 marks)

Q.1 What is modulation? Write need of modulation.

Q.2 Draw and explain in detail block diagram of communication system.

Q.3 Explain the following:

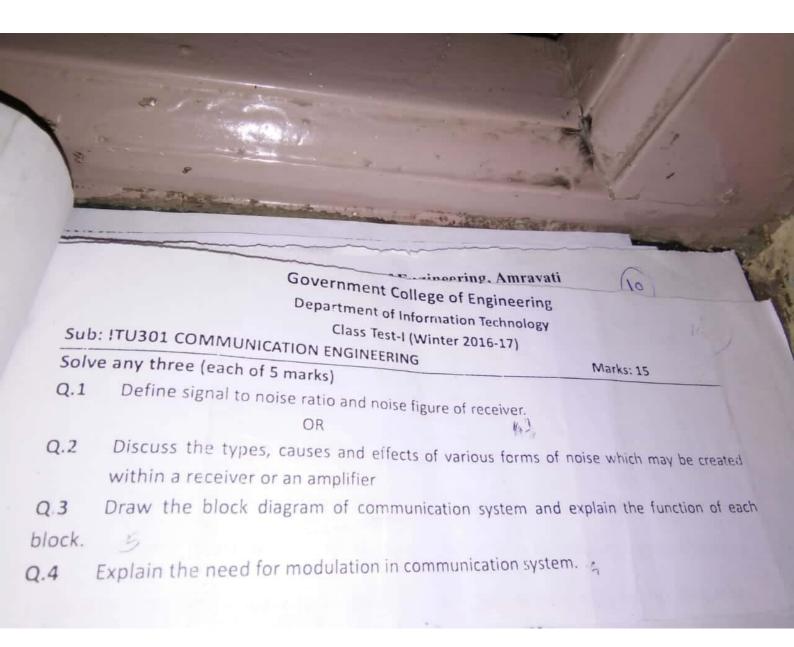
Thermal agitation noise

Shot noise

c) Transit-time noise

Q.4 Enlist and explain different types of channel.

Marks: 15



## Government College of Engineering

Department of Information Technology Class Test-I (Winter 2015-16)

Sub: ITU301 Communication Engineering

Solve any three (each of 5 marks)

Marks: 15

- Q.1 Explain with block diagram of high level and low level modulation.
- Q.2 Prove that balanced modulator produces an output consisting of sidebands only with the carrier removed.
- Q.3 Derive the formula for the instantaneous value of an FM voltage and define the modulation index.
- Q.4 When the modulation frequency in an FM system is 400Hz and the modulating voltage is 2.4V, the modulation index is 60. Calculate the maximum deviation. What is the modulation index when modulating frequency is reduced to 250 Hz and the modulating voltage is simultaneously raised to 3.2 V?

## **Government College of Engineering**

Department of Information Technology Class Test-1 (Winter 2015-16)

Class Test-1 (Winter 2015-16)  Sub: ITU301 Communication Engineering	Marks: 15
Solve the following (each of 5 marks)  Q.1 What are the elements of communication system? Describe their fundamental of the signal of the expression for instantaneous voltage of AM wave.  Q.3 Derive the expression for instantaneous voltage of AM wave.  Q.4 A 360 W carrier is simultaneously modulated by two audio waves and 65, respectively. What is total sideband power radiated?	[5]

