Seat No:_____ Enrollment No:_____

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

M.Sc.,Winter 2017-18 Examination

Semester: 3 **Date: 27/12/2017**
Subject Code: 11204204 **Time: 10:30am to 1:00pm**
Subject Name: Electronic Communication – I **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1. A) Answer the following questions. (Each of 04 marks) **(08)**
(a) Derive the general solution of transmission line.
(b) Explain Radio wave Propagation.

Q.1. B) Answer the following questions. (Any two)
(a) Do as directed. (Each of 02 marks) **(04)**
1. Define Line Parameters of transmission line.
2. Give the types of modulation.

(b) Explain Kepler's Law. **(04)**
(c) Give propagation characteristics of radio waves of different frequencies. **(04)**

Q.2. A) Answer the following questions.
(a) Do as directed. (Each of 02 marks) **(04)**
1. Define Wavelength and velocity of propagation.
2. Explain radio wave propagation in short.

(b) Explain SAB generation: Filter method for modulation. **(04)**

Q.2. B) Answer the following questions. (Any two)
(a) Do as directed. (Each of 01 marks) **(03)**
1. Write the formula for Inductance of transmission for transmission line. (without derivation)
2. Define Bit-timing recovery for digital communication.
3. Give the full form of CPFSK.

(b) What is an orbit? Explain geostationary orbit for satellite communication. **(03)**
(c) Explain Carrier Recovery System for digital communication. **(03)**

Q.3. A) Answer the following questions. (Each of 04 marks) **(08)**
(a) Explain Space wave Propagation.
(b) Explain amplitude modulation.

Q.3. B) Answer the following questions (Any two)
(a) Do as directed. (Each of 02 marks) **(04)**
1. Write the Probability of bit error in baseband transmission.
2. Draw the Eye diagrams for digital communication.

(b) Give the Physical significance of the Infinite line equations for a transmission line. **(04)**
(c) Describe attitude control. **(04)**

Q.4. A) Answer the following questions.
(a) Do as directed. (Each of 02 marks) **(04)**
1. Explain AM detector in short.
2. Define Asynchronous Transmission with an example.

(b) Explain Frequency spectrum of AM wave. **(04)**

Q.4. B) Answer the following questions (Any two)
(a) Do as directed. (Each of 01 marks) **(03)**
1. State Single Sideband Principle.
2. Give the full form of GET.
3. What do you mean by Synchronization?

(b) Explain the Reflection on a line not terminated in z_o for a transmission line. **(03)**
(c) Describe Refraction and Reflection of Sky waves propagation. **(03)**