****

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

FOURTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2019

**EC 208 ANALOG COMMUNICATION ENGINEERING (EC)**

**SCHEME FOR VALUATION**

**PART A**

**Any two full questions (2 x 15 = 30 marks)**

1 (a) Explanation of Thermal, shot partition, flicker noises, etc -- 8 marks

 (b) Circuit diagram -- 3 marks

 Explanation -- 4 marks

2 (a)

 (b) Derivation of the AM wave -- 5 marks

 Plot of the spectrum -- 1 mark

 Derivation for the power -- 3 marks

3 (a) Definition of noise factor -- 2 marks

 Derivation of the expression, Pno = FGkT0B -- 4 marks

 (b) Block diagram -- 3 marks

 Explanation -- 3 marks

 (c)

**PART B**

**Any two full questions (2 x 15 = 30 marks)**

4 (a) Block diagram -- 3 marks

 Explanation -- 3 marks

 Derivation of the output voltage -- 3 marks

 (b) Expression for total power using Bessel function coefficients -- 2 marks

 Proving that Pt = Pc -- 4 marks

5 (a) Drawbacks of TRF receiver -- 3 marks

 Block diagram of superheterodyne receiver -- 3 marks

 Explanation -- 4 marks

 (b)

6 (a) Block diagram of transmitter -- 3 marks

 Explanation -- 2 marks

 Block diagram of receiver -- 3 marks

 Explanation -- 2 marks

 (b) Comparison of AM and FM -- 5 marks

**PART C**

**Any two full questions (2 x 20 = 40 marks)**

7 (a) Block diagram -- 5 marks

 Explanation -- 5 marks

 (b) Circuit diagram -- 5 marks

 Explanation -- 5 marks

8 (a) Circuit diagram -- 5 marks

 Explanation -- 5 marks

 (b) Explanation with expressions -- 5 marks

 (c) Basic functions of a telephone set -- 5 marks

9 (a) Circuit diagram of JFET reactance modulator -- 4 marks

 Explanation -- 6 marks

 (b) Block diagram of base station unit and portable unit -- 4 marks

 Explanation -- 6 marks