Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

M.Tech., Summer 2017-18 Examination

Semester: 2 **Date: 21/05/2018**
Subject Code: 03204152 **Time: 2:00 pm to 4:30 pm**
Subject Name: Antenna System Design **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) Define and discuss the following parameters with the help of necessary figures: Radiation patterns and Antenna field zones **(05)**

B) Explain in detail for the Binomial array antenna. **(05)**

C) Find out the polynomial for T4(x) for the Chebyshave's distribution. **(05)**

Q.2 **Answer the following questions**. (Attempt any three) (Each five mark) **(15)**

A) Explain Woodward and Lawson Technique for antenna synthesis.

B) Compare the radiation characteristics for Triangular, Cosine, Cosine squared amplitude distribution.

C) With the neat figure, discuss the Cassegrain feed system.

D) Discuss the concept about the Pattern multiplication.

Q.3 A) Explain various types of linear array antennas in detail. **(07)**

B) Discuss Fourier transform method for antenna synthesis in detail. **(08)**

OR

B) Plot the radiation pattern for the 4 point sources placed linearly with equal distance $\lambda/2$ for the broad side array. **(08)**

Q.4 A) Explain the antenna analysis FDTD method for yee algorithm. **(07)**

OR

A) Discuss the Microstrip antenna Feeding technique in details. **(07)**

B) Derive maxima and minima for arrays of broad side case for two point sources: Equal amplitude and Phase. **(08)**