



**BUDDHA INSTITUTE OF TECHNOLOGY, GIDA, GORAKHPUR**  
**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**  
**CLASS TEST-2 (EVEN SEMESTER 2022-23)**  
**May-2022**

Course: B.Tech

Semester: VI

Subject: Antenna & Wave Propagation

Subject Code: KEC-603

M.M.: 30

Time: 2:00 hrs

Roll No. \_\_\_\_\_

**SECTION-A**

1. Attempt all questions. Each questions carry equal marks.

Marks: 5\*1=5

Q. No.	Question	Level of Taxonomy	Course Outcome
a.	State the Ampere's circuit law.	Understanding	(CO2)
b.	Calculate the radiation resistance of a $\lambda/10$ wire dipole in free space.	Understanding	(CO3)
c.	Define directivity of an antenna.	Understanding	(CO3)
d.	Examine the major advantage of folded dipole antenna.	Understanding	(CO4)
e.	What is maximum usable frequency?	Understanding	(CO5)

**SECTION-B**

2. Attempt all questions. Each questions carry equal marks.

Marks: 3\*5= 15

Q. No.	Question	Level of Taxonomy	Course Outcome
a.	Explain the tangential and normal boundary conditions between two dielectric for static electric fields.	Applying	(CO2)
<b>OR</b>			
a.	Derive and explain continuity equation for electrostatic in detail.	Applying	(CO2)
b.	A transmitting antenna with an effective height of 100m has a current at the base 100amp. (rms), at the frequency of 300 KHz. Find (i) The field strength at a distance of 10 km and (ii) The power radiated	Understanding	(CO3)
<b>OR</b>			
b.	Derive Friis transmission formula.	Understanding	(CO3)

c.	State and explain Maxwell's equations for time varying fields in differential and integral forms and their significance.	Applying	(CO2)
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**SECTION-C**

**3. Attempt any all questions. Each questions carry equal marks.**

**Marks: 2\*5=10**

Q. No.	Question	Level of Taxonomy	Course Outcome
a.	Derive the relation between MUF and skip distance. Also explain critical frequency and virtual height.  OR	Understanding	(CO5)
a.	Illustrate the expression for refractive index of ionosphere.	Understanding	(CO5)
b.	With a neat sketch explain the construction and working of Yagi-Uda antenna.  OR	Understanding	(CO4)
b.	Discuss Horizontal antennas above a plane ground.	Understanding	(CO4)