Name of Student:.....*Roll No:*.....

TKM COLLEGE OF ENGINEERING, KOLLAM-5
Dept. of Electronics & Communication Engineering
V Semester B.Tech Degree examination
I Series test (Oct 2020)

Max. Marks : 50 **EC 303 Applied Electro Magnetic Theory** **Time : 1.5Hrs**

MODULE-I(*Answer any t**wo** full questions***)**

No.	Question	Marks	CO	Blooms Level
1a.	Convert the point P (2,6,5) to 1. Cylindrical coordinate system 2. Spherical coordinate system	6		L2
1 b.	Convert the vector $\frac{1}{\rho}a_\rho$ to rectangular coordinate system	6.5		
2 a.	Explain Gauss law for Electrostatics.	3		L1
2 b.	Derive poisson's and Laplace equations?	3		L1
2c.	Apply Gauss law to determine D at a point P due to, 1. point charge at the origin 2. Infinite line charge	6.5		L3
3	Apply laplace equation to calculate the potential variation between coaxial cylinders of radius a and b where **a<b**.Assume that the inner cylinder has potential V_1 and outer cylinder has potential V_2=0.	12.5		L3

MODULE-II (*Answer any t**wo**full questions***)**

5	Derive the boundary condition for electric field for a region separating a dielectric and dielectric	12.5	3	L2
4a	List the Maxwell's equation in integral and differential form.	6	2	L1
4b	Derive the Maxwell's from Faraday's law and Amper's Circuital Law	6.5		
6	Derive wave equation for lossy media. Derive the expression for electric and magnetic field components of wave propagating in lossy media.	12.5	3	L3

BL –Bloom's Taxonomy Levels(1- Remembering, 2-Understanding, 3 –Applying, 4 –Analysing,5 –Evaluating, 6 –Creating)
CO –Course Outcomes