R18 Regulation *Subject code:2B2AF*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech II Semester Supplementary Examinations, June 2026

APPLIED PHYSICS-II

(Common to EEE, ECE, CSE & IT)

Maximum Marks: 70 Date: 17.06.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		Marks	CO	BTL
1	Define the intrinsic and extrinsic semiconductors.	2M	1	L1
2	Write the applications of Hall Effect.	2M	1	L1
3	Write is photo voltaic Effect?	2M	2	L1
4	What is meant by a photo detector?	2M	2	L1
5	Define the Biot-Savart law.	2M	3	L1
6	Explain Stoke's theorem.	2M	3	L1
7	Define electric susceptibility.	2M	4	L1
8	Explain the pyro electricity.	2M	4	L1
9	What do you understand by hysteresis loop?	2M	5	L1
10	Write the importance of superconductivity in modern society.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain V-I characteristics of p-n junction diode in forward and reverse bias.	10M	1	L2
	OR			
12	Explain in detail about drift and diffusion concepts.	10M	1	L2
13	Explain the construction and working of solar cell.	10M	2	L2
	OR			
14	Explain the structure of Avalanche photo and list its applications.	10M	2	L2
15	Calculate the magnetic field using Stoke's theorem.	10M	3	L2
	OR			
16	Explain the Ampere and faraday's laws.	10M	3	L2
17	What are dielectric materials and their types. Explain Clausius–Masotti relation subjected to static electric field.	10M	4	L2
	OR			
18	Derive an expression for electronic polarizability of an atom.	10M	4	L2
19	Discuss about the Dia, para and ferro magnetic materials.	10M	5	L2
	OR			
20	What is Meissner effect. Write about type I and type II superconductors.	10M	5	L2