

PAPER-III

SUBJECT CODE & NAME- 801510-MEDICAL ELECTRONICS, BIOPHYSICS AND COMPUTER USAGE RELEVANT TO CARDIAC TECHNOLOGY AND BASIC ELECTROCARDIOGRAPHY

UNIT – 1-Puzzle 5:

Silent Electrical Storm

Case -1 An ECG where all the limb leads show very low amplitude QRS complexes, but the precordial leads are normal.

- 1) Hypothesize why the cardiac electric field detected by limb leads is low.
- 2) Consider factors like heart position, vector orientation, and body conductivity.
- 3) Draw a schematic showing vector direction and amplitude.

Case -2:

A 45-year-old man's ECG shows:

- Slightly widened QRS (120 ms)
- Tall R waves in V5–V6
- Deep S waves persisting in V1–V3

✚ **Brain-Teaser Questions:**

- 1) Which part of the ventricle is depolarizing last?
- 2) How does this delayed region change the *final direction* of the ventricular vector?
- 3) Sketch or describe the approximate vector orientation responsible for the ECG pattern.
- 4) What conduction abnormality might cause this delay?

