SUBJECT NO-PH60305, SUBJECT NAME- PRINCIPLES OF RADIATION DETECTION

LTP- 3-0-0,CRD- 3

SYLLABUS :-

Sources of Nuclear Radiations (Radioactive Sources and Particle Accelerators); Interaction of Ionizing Radiations (Heavy Ions, Gamma Radiations, Neutrons, etc.) with Matter; Radiation Dosimetry; Statistics for Nuclear Physics Experiments (Characterization of Data, Probability Distribution Functions, Propagation of Errors, Weighted Mean Method, Optimization of Counting Experiments, Curve Fitting, Least Squares Method, Chi-Square Distribution); Ionization Detectors (General Operating Principles); Gas-Filled Ionization Detectors (Parallel Plate and Cylindrical Ionization Chambers, Parallel Plate Avalanche Counter, Cylindrical Proportional Counter, Multiwire Proportional Counter, Drift Chamber, Streamer Chambers, Bubble Chamber); Liquid Ionization Detectors; Semiconductor Detectors; Scintillation Spectrometers; Cherenkov Radiation Detectors; Radiation Calorimeters; Modern Mass Spectrometers as Heavy Ion Reaction Analyzer