

### **Research plan for Biochemistry department**

- 1- Investigating the biochemical basis of diseases induced by the exposure to poisons, heavy metals, chemicals or drugs in humans or experimental animals.
- 2- Investigating the protective/treatment efficacy of novel drugs, chemically synthesized products or natural substances on living systems.
- 3- Investigating the molecular mechanism of action of tested candidates on the level of DNA, RNA, protein or epigenetic regulators.
- 4- Studying cancer pathogenesis and its possible treatments.
- 5- Studying the genetic SNPs or mutations in diseases affecting the Egyptian patients.
- 6- Studying the metabolic diseases such as diabetes mellitus and obesity.
- 7- Investigating the cellular dysfunction associated with any organ toxicity including inflammation, oxidative stress, apoptosis, angiogenesis and proliferation.
- 8- Applying techniques such as ELISA, Southern, Northern, or Western blotting, spectrophotometry, Immunohistochemistry, PCR, qRT-PCR or flow cytometry in the biochemical analysis of disease components.