



## موضوعات بحثية ( على الطالب إختيار موضوع واحد فقط )

### 1 – Properties of Colloids

( definition of solution - types of solutions - true solution - suspension - emulsion and colloidal solution - Properties of colloids)

### 2 – Role of diffusion in plant life

( definition of diffusion – bases of diffusion – Importance of diffusion for - Plant life - factors affecting rate of diffusion)

### 3 – Importance of Osmosis in water transport in plants

( definition of osmosis - plant cell as osmotic system - osmotic pressure - Forces affecting osmosis - types of external solution related to plant cell – Role of osmosis in water transport – plasmolysis )

### 4 - Permeability through living membranes

( chemical structure of plasma membrane - definition of permeability – types of membranes according to permeability – permeability of water , gases , electrolytes and organic compounds )

### 5 – Enzymes

( definition of enzymes - structure of enzymes - specificity of enzymes - mechanism of action - factors affecting rate of enzyme reaction)

6- **General characters of viruses. Virus Covid-19 (general information, structure, origin, infection and transmission, symptoms, protection) as example.**

7- **General characters of viruses. Poliovirus (general information, structure, origin, infection and transmission, symptoms, protection) as example.**

8- **General character of prokaryotic organisms and highlight on bacteria as a source for energy.**

9- **General character of prokaryotic organisms and highlight on role of bacteria in genetic engineering.**

10- **General character of Mycota and highlight on Mushroom is a source of protein.**

11- **General character of algae and highlight on Biodiesel from algae.**