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الموضوعات:

- 1- HPLC is an advanced tool of chromatography: Discuss some applications in pharmaceutical industry.
- 2- Demonstrate the importance of GC in pharmaceutical Analysis.
- 3- Discuss the steps of judgment: Quality control of herbal drugs containing flavonoids.
- 4- Protoplast culture is one of important application of plant tissue culture. Discuss this statement.
- 5- *Agrobacterium tumefaciens* can be used for controlling production of secondary metabolites. Explain how to use these bacteria as a tool of genetic engineering technique
- 6- Gene Gun: Define with its application.
- 7- Immobilization and its application for production of secondary metabolites.
- 8- Briefly, give short notes on microbial models of mammalian metabolism.
- 9- Bioremediation and Biodegradation. Explain difference with some examples.
- 10- Hairy root culture is a useful technique in plant tissue culture. Illustrate with examples.
- 11- Discuss significance of UV and its use in chemistry with 5 examples.
- 12- Discuss significance of IR and its use in chemistry with 5 examples.
- 13- Discuss significance of  $^1\text{H-NMR}$  and its use in chemistry with 5 examples.
- 14- Discuss significance of  $^{13}\text{C-NMR}$  and its use in chemistry with 5 examples.
- 15- Discuss the steps of judgment: Quality control of herbal drugs containing Anthraquinones.