MPH-2B.2 ADVANCED MEDICINAL CHEMISTRY-II 3 Hrs/Week
THEORY

UNIT – I

A Revisit to 2-D QSAR: Free- Wilson Model, Fugita- Ban Model, Hansch analysis, Electronic factors, steric factors, & hydrophobic factors. Comparison between Free-Wilson model and Hansch analysis. Molecular Connectivity Index (**MCI**).

UNIT – II

- Recent techniques and applications in **Pharmacophore Mapping**.
- **3-D QSAR Analysis:** Receptor independent 3-D QSAR Analysis, Receptor dependent **3-D QSAR** Analysis.
- Receptor pre-organization for activity and its role in identifying Ligand-binding sites on
- Docking molecules into protein binding sites
- *de-novo* Ligand design

UNIT – III

Enzyme Inhibitors: A detailed study of the following types of enzyme inhibitors, related drugs and their pharmaceutical significance;

a) P.G.Synthetase (cycloxygenese and lipoxygenase inhibitors)
b) Phosphodiesterase (PDE) inhibitors.
c) Carbonic anhydrase inhibitors.
d) Angiotensin converting enzyme (ACE) Inhibitors
e) Acetyl choline Esterase (AchE) inhibitors.

UNIT – IV

Miscellaneous classes of drugs: Recent advances in the following classes of drugs:

a) Proton-pump Inhibitors as antiulcer agents.
b) Immunosuppressive and immunostimulant agents.
c) Antiviral agents
d) Beta – Adrenergic blockers (Beta 1 and Beta 2)

REFERENCES:

1. Medicinal Chemistry by Alfred Burger
2. Drug Design by Arie4ns.
3. Introduction to the principles of drug design by Smith & Williams.
4. Strategy of drug design by Purcell.
5. Textbook of medicinal and pharmaceutical chemistry by Wilson and Gisvold.
6. Principles of medicinal chemistry by William Foye
7. Organic synthesis by Michael. B .Smith Mac Graw Hill