PAPER ID-411350

Roll No: | | | | | | | | | | | | | |

MPHARM
(SEM II) THEORY EXAMINATION 2023-24
PRINCIPLES OF DRUG DISCOVERY

TIME: 3 HRS **M.MARKS: 75**

Note: Attempt all Sections. If require any missing data, then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a.	**Enumerate the characteristics of drug target**.
b.	Define bioinformatics and its application in drug discovery
c.	Differentiate between structure based and ligand-based drug design with example.
d.	Illustrate the application of NMR in protein structure prediction
e.	Compare ttraditional vs rational drug design with suitable example.
f.	Define hammet substituent constant with suitable examples.
g.	Briefly describe similarity coefficient.
h.	Enlist the type of interaction occurs in drug receptor interactions.
i.	Write the application of de novo drug design.
j.	Describe the application of 3D QSAR.

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a.	Explain in detail about lead optimization in modern drug discovery process.
b.	Define combinatorial chemistry. Explain in detail about solid phase combinatorial chemistry with application.
c.	Describe various physicochemical parameters involved in QSAR. Explain substituent hydrophobicity in detail.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a.	Describe the role of transgenic animals in target validation.
b.	Explain the role of microarrays technology in the drug discovery process
c.	Explain in detail about homology modelling and describe the importance in target discovery.
d.	Describe in detail about tertiary structure of protein and how it can be used in drug discovery process.
e.	Discuss in detail about pharmacophore-based screening with examples.
f.	Differentiate rigid docking and flexible docking. Explain its importance in drug discovery process.
g.	Define prodrug. Explain in detail in relation to drug absorption, distribution and site-specific drug delivery.