PAPER ID-421257

Subject Code: MPL203T

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

MPHARM
(SEM II) THEORY EXAMINATION 2021-22
PRINCIPLES OF DRUG DISCOVERY

Time: 3 Hours ***Total Marks: 75***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

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

a.	Describe Phase IV clinical trial in drug development.
b.	Recall Lipinski rules for predicting the drug like characteristics.
c.	Summarize the concept of combinatorial chemistry.
d.	Outline the term Support vector machine and its role in drug discovery.
e.	Define Pharmacophores. Write about pharmacophore mapping.
f.	Write the concept of rational drug design.
g.	Define QSAR. Quote three important parameters in QSAR study.
h.	Recite consensus scoring in docking function. Name the softwares used for docking.
i.	What is regression analysis? Mention the regression techniques used in 3D QSAR.
j.	What do you know about CoMSIA approach?

SECTION B

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

a.	Illustrate any two methods of insilico lead discovery techniques with its softwares.
b.	Justify the role of antisense oligonucleotides in target discovery & validation. Summarize "Si RNA" approach in drug discovery.
c.	Explain CoMFA technique in detail. Outline the partial least square analysis of QSAR statistics.

SECTION C

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

a.	What are prodrugs? Explain the rationale of design of prodrugs with its applications.
b.	Differentiate rigid and flexible docking. Explain the docking-based screening.
c.	Explain Structure based drug design and denovo drug design strategy with relevant examples.
d.	Discuss the high throughput screening technique for lead identification.
e.	Write the various levels of protein structure. How will you differentiate threading and homology modelling methods?
f.	Illustrate any one method used with genomics approach for target discovery & validation
g.	Summarize the stages of modern drug discovery process. What is Hansch analysis?