Printed Pages:01 **Sub Code: MPL 104T**

Paper Id: 298104 **Roll No.** | | | | | | | | | | |

M PHARM
(SEM-I) THEORY EXAMINATION 2018-19
CELLULAR AND MOLECULAR PHARMACOLOGY

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. Give the importance of siRNA and micro RNA.

b. Define NO and IP_3.

c. Give JAK / STAT signaling pathway.

d. Define DNA electrophoresis.

e. Write a note on micro array technique.

f. Define biosimilars.

g. Give a note on gene mutation.

h. Define immunotherapeutics.

i. Differentiate apoptosis and necrosis.

j. Write about gene sequencing.

SECTION B

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

a. Give in detail about recombinant DNA technology and gene therapy with applications.

b. Define cell culture, types and general procedure for cell culture.

c. Classify receptor family and their molecular structure.

SECTION C

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

a. Give detail about cell cycle and its regulation.

b. Explain cellular death, regulation and its pathways.

c. Give genetic variation in drug transporters.

d. Give a note on ELISA and western blotting.

e. Give the principles and applications of cell viability assays.

f. Explain gene mapping and cloning of disease gene.

g. Explain pharmacogenomics with its applications.