Code No: PHR16221                    **R16**                    SET - 1

**II B. Pharmacy II Semester Regular Examinations, April - 2018**
**PHARMACEUTICAL UNIT OPERATIONS-II**

Time: 3 hours                                                      Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

## PART –A

1.  a)  Give characteristics of drop wise and film type condensation.          (2M)

    b)  Explain the term evaporator capacity.          (2M)

    c)  State and explain Raoult's law.          (2M)

    d)  Define CMC and EMC in drying.          (2M)

    e)  Write the principle involved in the working of ball mill.          (2M)

    f)  Explain ideal or perfect mixing.          (2M)

    g)  State and explain Rittinger's theory.          (2M)

## PART -B

2.  a)  Derive equation for heat transfer by conduction through compound resistance in series.          (7M)

    b)  Describe the design, working and advantages of finned tubes.          (7M)

3.  a)  Explain the construction, working and applications of climbing film evaporator.          (10M)

    b)  Multiple effect evaporators are economical than single effect evaporators. Explain.          (4M)

4.  a)  Explain the principle, applications of evaporation under reduced pressure.          (7M)

    b)  Describe the construction and working of bubble cap column.          (7M)

5.  a)  Write the principle, construction and working of FBD.          (10M)

    b)  Classify dryers.  Give suitable examples.          (4M)

6.  a)  Write the advantages of size reduction.          (7M)

    b)  Describe the construction and working of "Hammer mill".          (7M)

7.  a)  Discuss the devices used in liquid-liquid mixing.          (10M)

    b)  Write the mechanism of mixing in solids.          (4M)