

*present content of **PG/PHAR/T/127D:Pharmaceutical Engineering A (or II*)** in website is incorrect*

***in question paper it is PG/PHAR/T/127D:Pharmaceutical Engineering II**

Present content is to be replaced in the website (Syllabus & Curriculum For PG Level) by the Actual content which is given below.

PG/PHAR/T/127D: Pharmaceutical Engineering A (or) II

1 (a) Heat transmission and evaporation

Natural and forced convections; Heat exchangers; Heat transfer with phase changes; Radiation; Different applications; Multiple effect evaporation and evaporator performance; problems.

(b) Diffusion and adsorption

Molecular and eddy diffusion; different applications. Theory of adsorption; Different adsorbent; Adsorption isotherms; Absorbers and it's design as well as performance; problems.

2 (a) Drying and humidification

Important dryers used in pharmaceutical industries; selection of drying equipment; psychometric chart; application of psychometry to drying; Humidifiers and dehumidifiers; problems.

(b) Fermentation technology

Different types of fermentations; performance of different fermenters; sterilization practices, production of pharmaceutical by fermentation.

(c) Agitation, mixing and blending

Fundamentals, types of mixers; Fitting the mixer to the operation; power requirements-theory of mixing; Mixing index; problems.

*Correction in website for B. Pharm.syllabus of **Pharmaceutical Engineering I , Third year 2nd semester.***

Present syllabus content is to be replaced in the website (Syllabus & Curriculum For UG Level) by the following:

Pharm/T/325 Pharmaceutical Engineering I , Third year 2nd semester, 4 pds/week

1. Heat transfer: Heat transfer by conduction; Thermal conductivity conduction in series; Different problems on heat conduction; Heat transfer by convection; concept of film and overall heat transfer coefficients; Heat transfer from condensing vapour; Heat transfer to boiling liquids; Heat exchangers-- Shell and tube, Double pipe, Extended Surface; Heat transfer by radiation, Stefan's Law and Kirchoff's laws, practical applications. Problems on heat transmission.
2. Evaporation: Types of evaporators. Calculation on evaporator. Overall heat transfer coefficient, steam economy and problems related to evaporator.
3. Size reduction: Crushing and grinding theory , milling equipments and related problems.
4. Separation : (a)Screening, theory of sedimentation, Stoke's law, classification of particle size by elutriation.(b) Theory of filtration, various industrial filtering equipments. (c) Theory of centrifuging, centrifuges.
5. Mixing: Theory of agitation of liquid system and related problems. Mixing of powder and semisolid materials.
6. Crystallization: Basic concept on solubility, Meirs supersaturation theory, caking of crystals, crystallizers and related problems.