B.P. 3rd Sem. (ASTU) – 27/11/15

Total No. of printed pages = 4

PY 132301

Roll No.of candidate | | | | | | | | | | |

2015

B. Pharm 3rd Semester End-Term Examination

PHARMACEUTICS-II

(Physical Pharmacy-I)

Full Marks –100 Pass Marks – 35 Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Answer any *ten* questions : 10×3=30

(i) Define amorphous and crystalline solids. Give examples.

(ii) What is partition coefficient ? Write its importance.

(iii) What is isotropy and anisotropy ?

(iv) What is heat of solution and heat of transition?

(v) Define osmosis and osmotic pressure. Give the Vant Hoff equation for osmosis.

[Turn over

(vi) How molecular mass is determined from freezing point depression ?

(vii) 'Spontaneous processes accompanied by decrease in internal energy'. — Comment.

(viii) Write a note on biological buffer.

(ix) List few applications of gases in pharmacy.

(x) What are metastable polymorphs ? Write their importance with example.

(xi) What are intensive and extensive properties?

(xii) What is HLB scale and RHLB ?

2. Answer any *eight* of the following questions : 8×5=40

(i) Describe the method for estimation of buffer capacity.

(ii) Find out the proportion of procaine hydrochloride required for obtaining a solution isotonic with blood plasma. The freezing point of 1% w/v solution of procaine hydrochloride is (-) 0.122°C.

(iii) Explain conductance measurement.

(iv) Explain Rault's law of relative lowering of vapour pressure.

(v) Define various thermodynamic processes.

(vi) Give the principle of heat engine. How efficiency of heat engine is calculated ?

(vii) Discuss the application of surface active agents.

(viii) Explain the phase diagram of a eutectic system.

(ix) Describe one method for determination of surface and interfacial tension.

(x) What do you mean by solubilization and detergency ?

3. Answer any *three* of the following questions : 3×10=30

(i) Define surface and interfacial tension. What is surface free energy ? Explain electrical properties of interface. 2+3+5=10

(ii) Explain Freundlich and Langmuir theory of adsorption. Derive BET equation. 7+3=10

(iii) Derive buffer equation for acid buffer. Explain the methods of adjusting tonicity. 4+6=10

(iv) State on the following terms : 2×5=10

Latent heat,

Critical micelle concentration (CMC),

Entropy,

Critical point,

Phase rule.