PAPER ID-411744

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

BPHARM
(SEM III) THEORY EXAMINATION 2021-22
PHYSICAL PHARMACEUTICS I

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

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

SECTION A

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

a.	Define the term "critical solution temperature" with an example.
b.	Interpret the term "freely soluble".
c.	Define the term "relative humidity".
d.	Define the term "sublimation" with an example.
e.	List various types of surfactants according to their use as per the HLB scale.
f.	Define the term "detergency".
g.	Define the term "plasma protein binding" with an example.
h.	Identify the central metal ion present in the Vitamin B_{12}.
i.	Differentiate between an isotonic, a hypotonic and a hypertonic solution.
j.	Explain the term "pH".

SECTION B

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

a.	Discuss in detail the "Raoult's law" with the help of diagrams showing positive and negative deviations and explain reasons behind these deviations.
b.	Differentiate between amorphous and crystalline solids with proper examples and also explain the phenomenon of polymorphism with suitable example.
c.	Illustrate the Freundlich and Langmuir adsorption isotherms.

SECTION C

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

a.	Explain distribution law and mention some of its applications.
b.	Explain the term "eutectic mixture" with proper example.
c.	Write down the different methods for the measurement of surface and interfacial tensions and illustrate any one of these methods in detail.
d.	Classify and discuss the different types of complexes with appropriate examples.
e.	Explain various factors affecting protein binding of drugs and discuss any one method for the determination of protein binding of a drug.
f.	Describe the term "buffer capacity" and also explain the applications of buffers in pharmaceutical and biological systems.
g.	Write down the various methods for adjusting the tonicity of a pharmaceutical solution and applying an appropriate method determine the %-age of sodium chloride needed to make a solution of 0.05% of atropine sulphate isotonic with blood plasma. (Sodium chloride equivalent value (E) of atropine sulphate is 0.12.)