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MID SEMESTER EXAMINATION- DEC 2014

B.Pharm 6th Semester

COURSE CODE: 10B11PY613 MAX. MARKS: 30

COURSE NAME: Industrial Pharmacy-II

COURSE CREDITS: 3 MAX. TIME: 2 Hrs

Note: *All questions are compulsory. Attempt all questions of a particular section at one place.*

SECTION A **(Marks: 6)**

1. What could be the basis of temperature limitation for 2P & 2Q containers in aerosol systems (As per DOT regulations)?
2. How will you differentiate prolong release from sustained release formulations?
3. In what way, absorption pattern of drug affect the sustained release formulations?
4. Why some suspension formulations need wetting agents? Provide 3 examples of wetting agents.
5. How does derivatization of active ingredients improve the physical stability of aerosol system?
6. Why particle size is required to measure in aerosol formulations?

SECTION B **(Marks: 9)**

1. (a) How does selection of packaging material influence the suspension formulations? Provide suitable examples in biological influence of the same. (1.5)

   (b) Design a sustained release formulation (Matrix tablet) in view of pharmacokinetics principles for its effectiveness. (1.5)

2. Discuss the role of solid content volume (high versus low) on formulation parameters (formulation methodology) of suspensions. (3.0)

3. Comments on rheological properties of suspensions and their influence on biological efficacy of these formulations. Provide suitable examples. Also mention the reason why such studies have been performed at low shear rate? (2 +1)

SECTION C **(Marks: 15)**

1. (a) Enumerate the techniques which can be used to achieve sustained release pattern and discuss in details about polymeric approach for the same context with suitable examples. (2.5)

   (b) How do physico-chemical properties of drug molecule influence the development of sustained release system? Provide suitable examples. (2.5)

2. (a) Why do we consider 'stability' as the most crucial parameter for aerosol formulations? Discuss in detail about stability check of various parts of aerosols with suitable regulating guidelines. (1.5+ 1.5)

   (b) Highlight the crucial steps dealing with manufacturing of aerosol products and detail about cold filling method. (2.0)

3. Detail the DLVO theory for stability of suspension. Draw schematic diagram to clarify the importance of secondary minimum as a critical phenomenon for flocculation. (2.5 + 2.5)

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