

Birla Institute of Technology and Science, Pilani
First Semester 2022-23
Pharmaceutical Formulation II (PHA F315)
Mid-Sem Examination

Max. Marks: 45

Closed Book

Duration: 90 Minutes

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- Q1.** An anti-diabetic drug PP which is bitter in taste and moisture sensitive, formulated as immediate release tablet. Another anti-hypertensive drug QQ which is not stable in acidic media (pH 1 to 3), formulated as tablets. What type of coating will you prefer for tablets of above two drugs? Justify your answer. [3]
- Q2.** Write the mechanisms of tablets disintegration and reflect the importance of disintegrants in this process. [3]
- Q3.** **With suitable example**, explain how the knowledge of polymorphic form of a drug is essential for preparation of dosage form. [3]
- Q4.** Describe in detail how excipients may impact absorption of an orally administered tablet. [5]
- Q5.** Drug A and drug B, weak basic compounds have same Log P (3.2). pKa of drug A (acidic) and B (basic) is 4.6 and 6.2 respectively. Calculate the Log D for drug A and B at pH 4.2. [2+2 = 4]
- Q6.** Write the specific answer for the following: [4×3 = 12]
- Discuss how the preformulation data of drug **decide the dosage form**.
 - Discuss how the preformulation investigation **decide the formulation process**.
 - Discuss how the preformulation investigation **decide the mode of administration of drug**.
 - Discuss how the preformulation investigation **decide the packaging for pharmaceutical product**.
- Q7.** Drug A and B when administered orally, show total bioavailability of 27% and 84% respectively. List out the possible reason for this variability in bioavailability. [3]
- Q8.** Drug A has a molecular weight of 246 and logP value of 5.3. Drug B, on the other hand, has a molecular weight of 873 and logP value of 6.2. Which BCS class they may belong to? Will they have good oral bioavailability? What can be done to improve their oral bioavailability? [2+1+3]
- Q9.** Harry is keen on taking a lipid soluble drug on an empty stomach while Hermione thinks that it should be taken with food. Which method will result in a better bioavailability of the drug and why? [2]
- Q10.** Drug X (logP 3.2, pKa 4.1, MW 468) is absorbed only from the lower intestine through a carrier mediated mechanism. Normal tablet of drug X exhibit 30% bioavailability. What strategy you can adopt to improve the bioavailability of drug X? Justify. [2]
- Q11.** A tablet Tyrion was preparing showed high level of capping and lamination. What may be the major reason for this defect and how to rectify those? [2]

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