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Total Number of Pages: 2

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M.PHARM
MPH2D.1

2nd Semester Regular / Back Examination – 2016-17

PHARMACOKINETICS & DRUG METABOLISM

Branch: PHARMACOLOGY

Time: 3 Hours

Max Marks: 70

Q. CODE: Z1050

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

- Q1 Answer the following questions:** (2 x 10)
- What is mixed order kinetic? Give an example of a drug whose absorption follows mixed order kinetics.
 - Which mechanisms are involved for the absorption of oil soluble vitamins?
 - What is pka and pH? Explain how these two factor affects GI absorption of a drug.
 - Write the advantages and disadvantages of rectal administration of drug.
 - What is drug disposition? Write different process of drug disposition.
 - What is Vd? Write the mathematical equation for determination of Vd.
 - What is biotransformation? Write the types of enzymes responsible for biotransformation.
 - Protein bound drugs are pharmacodynamically inert-justify.
 - What should be the duration of washout period between any two bioavailability studies in the same subject? And why?
 - Write the chemical pathway of drug metabolism
- Q2**
- Define bioavailability. Define absolute and relative bioavailability and mention the objectives of bioavailability studies. (5)
 - Discuss the methods used in quantitative evaluation of bioavailability. (5)
- Q3**
- Write the difference between microsomal and nonmicrosomal enzyme and briefly discuss about some microsomal enzyme. (5)
 - Write a note on various isoform of cytochrome P-450 and outline the steps involved in the oxidation of xenobiotics. (5)
- Q4** Write a note on invitro and invivo drug metabolism study. (10)
- Q5**
- Write a note on various plasma preoteins. (5)
 - Discuss the significance of drug protein binding. (5)
- Q6**
- Discuss why distribution of drug throughout the body is not uniform. (5)
 - Write a note on physiological barrier that affects the distribution of drug. (5)

Q7 a) Write the mechanism of gastrointestinal absorption of drugs and discuss the similarities and difference between passive and facilitated diffusion. (5)

b) Discuss in detail the physicochemical factors affecting GI absorption of drug. (5)

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Q8 Write short notes on any two: (5 x 2)

- a) Factors affecting renal excretion.
- b) Factors affecting drug metabolism.
- c) Limitations of pH-partition hypothesis

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