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Question Paper Code: 59922

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Elective

Chemical Engineering

15UCH922- DRUGS AND PHARMACEUTICAL TECHNOLOGY

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

1. Bioavailability means CO1- R
 - (a) Plasma protein binding degree of substance
 - (b) Permeability through the brain-blood carrier
 - (c) fraction of an unchanged drug reaching the systematic circulation following any route administration
 - (d) amount of substance in urine relative to the initial doze

2. The main mechanism of most drug absorption in GI tract is CO1 -U
 - (a) Active transport
 - (b) Filtration
 - (c) Endocytosis and exocytosis
 - (d) Passive diffusion

3. Pharmacokinetics is CO2 -R
 - (a) study of biological and therapeutic effect of drugs
 - (b) study of absorption, distribution, metabolism and excretion of drugs
 - (c) study of mechanism of drug action
 - (d) study of methods of new drug development

4. Which one of the following is an example of the chemical modification of an active pharmaceutical ingredient? CO2 -U
- (a) Converting a crystalline API into an amorphous form
- (b) Combining a basic API with citric acid to produce the citrate salt of the API
- (c) Mixing a poorly soluble API with water to produce a suspension
- (d) Mixing a soluble API with water to produce a solution
5. Dehydration means CO3 -R
- (a) Removal of water (b) addition of oxygen
- (c) loss of oxygen (d) Addition of water
6. Identify the category of drug which acts to prevent blood from clotting. CO3 -R
- (a) Analgesic (b) Antibiotic (c) Anticoagulant (d) Antidiuretic
7. Empty capsule has moisture content in the range of CO4 -R
- (a) 60% (b) 12-15% (c) 50-70 % (d) 30%
8. Which of the following is not a semisolid dosage form? CO4 -R
- (a) Paste (b) Creams (c) Ointments (d) Suspensions
9. Identify the category of drug which acts to relieve pain CO5 -R
- (a) Anticoagulant (b) Analgesic (c) Diuretic (d) Emetic
10. The instrument which may be used to measure the optical activity of compound is CO5 -R
- (a) Infrared spectrometer (b) Atomic absorption spectrometer
- (c) Polarimeter (d) Fluoroscope

PART – B (5 x 2= 10Marks)

11. Mention the properties of organic therapeutic agents. CO1 -R
12. Distribution of drug is not uniform throughout the body. Justify CO2 -R

13. Deduce dehydration reaction with example. CO3 -R
14. Enlist the excipients that are found in tablet. CO4 -R
15. Name the drugs that relieve common cold symptoms CO5 -R

PART – C (5 x 16= 80Marks)

16. (a) What are the therapeutic agents? Enumerate the application of organic therapeutic agents CO1 -R (16)
- Or
- (b) Give an overview of process of pharmaceutical product development with a case study CO1 -R (16)
17. (a) Discuss the various physicochemical properties of drug distribution. CO2- U (16)
- Or
- (b) Enumerate drug biotransformation and its role to inactivate and detoxify drugs CO2 -U (16)
18. (a) Build the mechanism of CO3 -U (16)
- (i) Esterification reaction with suitable examples.
- (ii) Oxidation reaction with suitable examples
- Or
- (b) Explain glucuronidation and sulfonation reactions. Brief out the mechanism of formation of sulphonate from epinephrine. CO3 -U (16)
19. (a) Analyze the production of tablets using single punch and rotary punch tablet machine with a neat diagram. CO4 -U (16)
- Or
- (b) Illustrate with suitable examples on the concept of quality control and quality assurance of the drug development CO4 -U (16)
20. (a) Write in detail about the pharmacology of antacids and antiseptics with illustrations. CO5- U (16)
- Or
- (b) What are laxatives? Elucidate its role in biological system with logical diagram at necessary parts CO5 -U (16)

