

GPAT 2016

If the given drug is absorbed by passive diffusion what will be its absorption kinetics?

- A) Zero order B) First order C) Second order D) Pseudo-zero order

Which of the following is delayed type of hypersensitivity reaction?

- A) Arthus reaction B) Penicillin sensitivity C) Tuberculin sensitivity D) ABO incompatibility

Methyl ether of erythromycin is _____.

- A) Clarithromycin B) Dirithromycin C) Azithromycin D) Mithramycin

Ebullioscopic method is based on which of the following observation?

- A) Freezing point depression B) Boiling point elevation
C) Osmotic pressure change D) None of the above

HLB of SPAN and TWEEN surfactants may be obtained from which of the following equations?

- A) $HLB = E/5$ B) $HLB = (E + P)/5$
C) $HLB = 20 [(1 - S)/A]$
D) $HLB = (\text{hydrophilic group numbers}) - (\text{lipophilic group numbers}) + 7$

How many fundamental vibrations can be expected for C_2H_5Cl

- A) 7 B) 11 C) 14 D) 18

Which of the antibodies provide passive immunity to newborn baby?

- A) IgG B) IgM C) IgA D) IgE

Which of the following is NOT suitable as a post-coital contraceptive?

- A) Levonorgestrel 1.5mg B) Ulipristal acetate 30 mg
C) Mifepristone 10 -25 mg D) Mestranol 1.5 mg

Which of the following properties are characteristic of tannins?

- P) They give a precipitate with alkaloids.
Q) They give a yellow or bluish-red colour with iron(III) chloride.
R) They transform hide into leather.
S) They give a pale-pink precipitate with iodine.
A) P, Q, S B) P and Q C) P and R D) Only Q

Which of the reactive oxygen species is most dangerous to cells?

- A) Singlet oxygen B) Hydroxyl radical C) Superoxide radical D) Peroxide

The Gibb's phase rule:

- A) holds only for systems with more than component.
B) predicts that a maximum of three phases can exists in one component system.
C) does not count phase compositions as intensive variables.
D) does not count pressure and temperature as intensive variables.

Nerve impulses from the cochlea arrive first in which region of the brain?

- A) auditory cortex B) thalamus C) medulla oblongata D) inferior colliculus

The product of a Michael reaction of a ketone enolate to an α,β -unsaturated ketone is ____ and addition reaction occurs in a/an ____.

- A) 1,5-diketone; 1,4-fashion
- B) α -substituted acetate; 1,2-fashion
- C) β -hydroxy ketone; 1,3-fashion
- D) α,β -keto ester; 1,5-fashion

What is the surface tension of water at 25 °C?

- A) 58 dyne/cm
- B) 68 dyne/cm
- C) 72 dyne/cm
- D) 82 dyne/cm

Acridine and xanthene rings are related to each other in that ____.

- A) Xanthene is oxygen isoster of acridine
- B) Acridine is oxygen isoster of xanthene
- C) Xanthene is nitrogen isoster of acridine
- D) Xanthene is sulfur isoster of acridine

Colligative properties depend on ____.

- A) structural arrangement of atoms within the molecules of solute and solvent.
- B) the number of solute particles in solution.
- C) the physical properties of the solute particles dissolved in solution.
- D) sum of the corresponding properties of individual atoms or functional groups within the molecules

Which of the following increase systolic and diastolic pressure in normal patient but not in patient with heart transplant?

- A) Epinehrine
- B) Norepinephrine
- C) Tyramine
- D) Phenylephrine

A large Reynold number is indication of which type of flow?

- A) Smooth and stream line flow
- B) Laminar flow
- C) Steady flow
- D) Highly turbulent flow

Which of the following is a drug considered as potassium sparing diuretic?

- A) Triamterine
- B) Chlorthiazide
- C) Mannitol
- D) Furosemide

Increased number of normal mitosis may be present in the following tissue EXCEPT

- A) Bone marrow cells
- B) Nails
- C) Hepatocytes
- D) Intestinal cells

To which chemical class the vinca alkaloids belong?

- A) Tropane
- B) Indole
- C) Tryptophan
- D) Purine

An antibiotic that resembles the 3' end of a charged tRNA molecule is:

- A) Streptomycin
- B) Vincamycin
- C) Puromycin
- D) Tetracycline

If the cohesive forces in between similar molecules are less than the adhesive forces between dissimilar molecules, a deviation in Raoult's law is observed. Here which deviation will be seen?

- A) Positive
- B) Negative
- C) Absent
- D) Either positive or negative

Phenylalanine, a precursor of most of the phenolics in higher plants is a product of which one of the following pathways?

- A) Shikimic acid pathway
- B) Malonic acid pathway
- C) Mevalonic acid pathway
- D) Methylerythritol pathway

Which of the reagent from the given can be used to protect ketone group?

- A) Acidic methanol
- B) Basic methanol
- C) Methanol + KCN
- D) Di-*t*-butyl dicarbonate

Which of the following drugs causes less inhibition of REM sleep?

- A) Zolpidem B) Ethanol C) Lorazepam D) Phenobarbitone

The starting materials for synthesis of sulfamethoxazole are:

- A) 4-Aminobenzene-1-sulfonyl amide + 3-chloro-5-methyl isoxazole
B) 4-Aminobenzene-1-sulfonyl chloride + 3-amino-5-methyl isoxazole
C) 4-Aminobenzene-1-sulfonyl chloride + 3-amino-5-methyl oxazole
D) 4-Aminobenzene-1-sulfonyl chloride + 5-amino-3-methyl isoxazole

The Clinical Trial Registry in India is maintained by:

- A) World Health Organization, Delhi B) Indian Council of Medical Research, New Delhi
C) Institute of Clinical Research, New Delhi D) Central Drugs Standard Control Organization, New Delhi

Match natural products with their chemical nature.

- 1) Prunasin P) Flavonolignan
2) Silibinin Q) Anthracene carboxylic acid
3) Hypericin R) Glucoside of D-mandelonitrile
4) Sennoside S) Naphthodianthrone

A) 1- R, 2- S, 3- Q, 4- P

B) 1- R, 2- S, 3- P, 4- Q

C) 1- R, 2- P, 3- S, 4- Q

D) 1- P, 2- R, 3- Q, 4- S

What is the correct order for unsaturation present in following fatty acids?

- 1) Palmitoleic Acid 2) Linolenic 3) Linoleic acid 4) Arachidonic acid
A) 1>2>3>4 B) 3>4>2>1 C) 4>3>2>1 D) 4>2>3>1

Which of the following is NOT a component of evaporator?

- A) Heat exchange B) Vacuum separator C) Condensor D) Cyclone separator

In Parkinson's disease, there is a predominant loss of dopaminergic neurons primarily in

- A) Substantia nigra B) Cerebellar cortex C) Cerebral cortex D) Locus ceruleus

At equilibrium the receptor occupancy is related to drug concentration by

- A) Henderson-Hasselbach equation B) Hill-Langmuir equation
C) Lineweaver-Burk equation D) Langmuir adsorption isotherm

Which method is not suitable to calculate area under the curve?

- A) Least square method B) Weighing and platingometry
C) Trapezoid rule D) Integration of curve

The clinical trial is being conducted with 1500 volunteers which may span on period of 2 years as per protocol. The clinical trial is in which phase?

- A) Phase 1 B) Phase 2 C) Phase 3 D) Phase 4

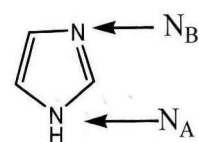
Which of the following drug has not undergone a clinical trial for its use to decrease intracranial pressure?

- A) Dideoxyinosine B) Zidovudine C) Acetazolamide D) Nicotine

Colloidal dispersion have which type of rheology?

- A) Newtonian B) Pseudoplastic C) **Non-newtonian** D) Dilatant

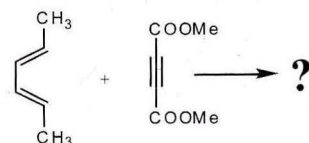
Which of the nitrogen atoms in imidazole is more basic?



- A) Nitrogen A
C) Both the N are equally basic

- B) Nitrogen B**
D) Can not be said

What will be the product of the given reaction



- A) B) C) D)

Toluene is converted to which compound in presence of CrO_3 with acetic anhydride?

- A) Benzyl alcohol B) **Benzaldehyde** C) Benzoic acid D) Benzoin

Match the antimalarial drugs with their modes of action

- | | |
|-------------------------|--|
| 1) Artemisinin | P) Inhibition of parasite mitochondrial electron transport |
| 2) Pyrimethamine | Q) Inhibition of heme polymerase |
| 3) Quinine | R) Generation of oxygen and carbon-centered radicals |
| 4) Atovaquone/proguanil | S) Inhibition of dihydrofolate reductase |
| A) 1-P, 2-S, 3-Q, 4-R | B) 1-Q, 2-S, 3-P, 4-R |
| C) 1-S, 2-R, 3-Q, 4-P | D) 1-R, 2-S, 3-Q, 4-P |

The ethanolic solution contaminated with benzene showed absorbance of 0.69 at 260 nm in a 2 cm cell. If the molar absorptivity of benzene in ethanol is $230 \text{ M}^{-1}\text{cm}^{-1}$, what is the concentration of benzene in the solution?

- A) 0.003 M B) **0.0015 M** C) 0.001 M D) 0.015 M

Which of the following is an example of diazonium ion?

- A) $\text{CH}_3^+\text{N}_3^-$ B) **CH_3N_2^+** C) $\text{H}_2\text{N}-\text{NH}_3^+$ D) None of these

Which term describes 'The degree to which a set of inherent properties of a product system, or process fulfils requirements, the best'?

- A) Standard B) **Quality** C) Quality objective D) State of Control

What will be the AUC value of lidocaine if the administered dose is 0.2 g and the total body clearance is 45 L/h?

- A) **4.44 h.mg/L** B) 0.0044 h.mg/L C) 9.00 h.mg/L D) 9000 h.mg/L

The most effective agent for treating psychosis would be:

- A) Bupropion B) Sertraline C) Dextroamphetamine D) **Olanzapine**

Drugs (Price Control) Order 1995 and related orders from time to time are enforced by:

- A) NPPA B) CSIR C) DBT D) ICMR

Match the drugs with the plant from which they are isolated and their families.

- | | | |
|--------------------------------|---------------------|--------------------|
| 1) Artemisinin | P) Periwinkle | i) Dioscoreaceae |
| 2) Diosgenin | Q) May apple | ii) Apocynaceae |
| 3) Etoposide | R) Sweet wormwood | iii) Berberidaceae |
| 4) Vinblastine and Vincristine | S) Mexican wild yam | iv) Asteraceae |

A) 1-R-iv, 2-S-i, 3-Q-iii, 4-P-ii B) 1-S-iv, 2-R-i, 3-Q-iii, 4-P-ii

C) 1-Q-iii, 2-R-ii, 3-Q-i, 4-P-iv D) 1-R-iv, 2-S-iii, 3-Q-i, 4-P-ii

Which of the following is an irreversible phenomenon related to stability of emulsion

- A) Cracking B) Creaming C) Coalescence D) Flocculation

If a drug is highly bound to plasma proteins, what might be its reason or consequence?

- A) It is most likely carried by α -glycoprotein B) It has a high renal clearance.
C) It has a large Vd D) It is a likely candidate for drug interactions.

TGA is a regulatory body of which country?

- A) Europe B) Australia C) Canada D) UK

Which prostaglandins have a keto function at C-9 and a α -Hydroxyl group at C-11 in prostanoid acid backbone?

- A) PGA B) PGI C) PGE D) PGF

Following intravenous administration, drugs are distributed fastest to:

- A) the skin, kidney, and brain B) the liver, kidney, and brain
C) the liver, adipose, and brain D) the liver, kidney, and adipose

Which of the following agents act as hypoglycemic as ATP sensitive potassium channel blocker?

- A) Mitiglinide B) Pioglitazone C) Liraglutide D) Sitagliptin

Carbanilide shows strong IR absorption in which of the following range in cm^{-1} ?

- A) 3200-3600 B) 1640-1690 C) 1000-1300 D) 2210-2260

Match the drugs with their adverse effects.

- | | |
|---------------------|--------------------------------|
| 1) Cyclophosphamide | P) Pulmonary fibrosis |
| 2) Doxorubicin | Q) Nephrotoxicity, ototoxicity |
| 3) Bleomycin | R) Acute hemorrhage cystitis |
| 4) Cisplatin | S) Cardiotoxicity |

A) 1-S, 2-R, 3-P, 4-Q B) 1-P, 2-Q, 3-S, 4-R

C) 1-P, 2-S, 3-Q, 4-R D) 1-R, 2-S, 3-P, 4-Q

Which one of the following techniques is used to determine glass transition temperature?

- A) X-ray diffractometry B) Raman spectroscopy
C) Differential scanning calorimetry D) Atomic force microscopy

Hairy root cultures for production of secondary metabolites are induced by transforming plant cells with which organism?

- A) *Bacillus thuringiensis* B) *Agrobacterium tumefaciens*
C) *Agrobacterium rhizogenes* D) Virus

Rank the following substrates in order of decreasing reactivity in an S_N1 reaction.

- P) C_2H_5Br Q) $C_6H_5(CH_3)_2CBr$ R) $(CH_3)_3CBr$ S) $(CH_3)_2CHBr$
A) $P > Q > R > S$ B) $P > S > Q > R$ C) $Q > R > S > P$ D) $Q > R > S > P$

Which of the following statements is correct for Gram positive bacteria

- A) Cell wall has a thin peptidoglycan layer
B) Cell wall lipid content is very low and smaller volume of periplasm
C) Lipopolysaccharide layer is present D) Teichoic acid is present

The terms upper consolute temperature and lower consolute temperature are related to which phenomenon?

- A) Cloud point B) Critical solution temperature
C) Kraft point D) Phase inversion

Match the alkaloids with their synthetic precursors.

- 1) Pilocarpine P) Nucleotide
2) Conine Q) Tryptophan
3) Caffeine R) Histidine
4) Yohimbine S) Acetate derived
A) 1-S, 2-R, 3-P, 4-Q B) 1-S, 2-Q, 3-P, 4-R
C) 1-P, 2-R, 3-S, 4-Q D) 1-R, 2-S, 3-P, 4-Q

Which of the following transitions will be shifted to longer wavelength in response to increase in solvent polarity?

- A) $\sigma \rightarrow \sigma^*$ B) $\sigma \rightarrow \pi^*$ C) $\pi \rightarrow \pi^*$ D) $n \rightarrow \pi^*$

***Bacillus subtilis* is used as test organism to conduct assay of which antibiotic?**

- A) Doxycycline B) Streptomycin C) Penicillin D) Erythromycin

In NMR spectroscopy, the product of the nuclear 'g' factor (g_N) the nuclear magneton (μ_N) and the magnetic field strength (B_0) gives the _____.

- A) Energy of transition from α to β state B) Chemical shift
C) Spin-spin coupling constant D) Magnetogyric ratio

Match the following enzymes/proteins with their specific functions in DNA replication.

- 1) Helicases P) Processive unwinding of DNA
2) DNA Primases Q) Seals the single strand
3) DNA Ligases R) Relieves torsional strain
4) Topoisomerases S) Initiates synthesis of RNA primers
A) 1-P, 2-Q, 3-R, 4-S B) 1-P, 2-S, 3-Q, 4-R
C) 1-S, 2-Q, 3-P, 4-R D) 1-P, 2-Q, 3-R, 4-S

When morphine is heated at 140°C under pressure, with strong HCl, it converts into:

- A) Morphinone B) Apomorphine C) Codeine D) Oxymorphone

All of the following are gram-negative rods EXCEPT

- A) Clostridium B) Escherichia C) Salmonella D) Shigella

The cells which secrete male sex hormone testosterone are:

- A) Crypts of Lieberkuhn B) Leydig cells C) Sertoli cells D) Isthmus

If QA and QC are compared

- A) Both are literally the same
B) QA is a higher activity in the management hierarchy
C) QA is a higher activity in the management hierarchy
D) QA is done by the production person and QC is done by analyst

Bioavailability of drug refers to:

- P. The Ratio of drug excreted unchanged in urine to that excreted as metabolites
Q. Fraction of the drug reaching the target to produce the action
R. The length of time an administered drug is available for action
S. Percentage of administered dose that reaches systemic circulation in the unchanged form
A) Only P B) Q and R C) R and S D) Only S

Which of the following is a side effect of ACE Inhibitors?

- A) Sinus congestion B) Angina C) Cough D) Hypokalemia

Which one of the following is a solid dosage form excipient which can play the role of a diluent, a disintegrant, a glidant, a lubricant and a pore/channel former?

- A) Lactose B) Microcrystalline cellulose
C) Ethyl cellulose D) Eudragit RL 100

Match product, source and plant part from which they are obtained

- | | | |
|--------------|----------------------|-----------|
| 1. Bacosides | P. Acacia catechu | i. Herb |
| 2. Cutch | P. Rubiatinctorium | ii. Leaf |
| 3. Henna | R. Bacopamonnieri | iii. Root |
| 4. Alizarn | S. Lawsonia intermis | iv. Stem |

A) 1-R-ii, 2-S-i, 3-Q-iii, 4-P-iv B) 1-R-i, 2-P-iv, 3-S-ii, 4-Q-iii

C) 1-Q-ii, 2-P-iii, 3-S-iv, 4-R-i D) 1-S-ii, 2-R-iv, 3-P-i, 4-Q-i

In polarography _____ current must be blocked.

- A) Residual B) Migration C) Diffusion D) None

The propellant commonly used in topical aerosols is:

- A) Trichloromonofluoromethane B) Trifluoromonofluoroethane
C) Dichlorodifluoromethane D) Isopropyl alcohol

Which is the first line drug for the treatment of generalized seizures?

- A) Valproic acid B) Phenytoin C) Carbamazepine D) Tiagabine

Tetracycline in basic solution is unstable and forms which product?

- A) Epitetracycline B) Anhydrotetracycline **C) Isotetracycline** D) Doxycycline

The location of the blood-brain barrier is considered to be:

- A) At the level of the brain capillaries** B) At the level of glia
C) At the level of neurons D) At the level of dendrites

Match the following plant products with their chemical class

- | | |
|--------------------|----------------------------------|
| 1) β -amyrin | P) Alkaloid secondary alcohol |
| 2) Squalene | Q) Alkaloid, phenol |
| 3) Morphine | R) Triterpene, Secondary alcohol |
| 4) Ephedrine | S) Acyclic triterpene, polyene |
- A) 1-R, 2-S, 3-Q, 4-P** B) 1-S, 2-Q, 3-P, 4-R
C) 1-P, 2-S, 3-Q, 4-R D) 1-R, 2-S, 3-P, 4-Q

The following drug metabolizing reaction is entirely non-microsomal:

- A) Glucuronide conjugation **B) Acetylation** C) Oxidation D) Reduction

Which of the following methods is used to determine whether a process functions properly for its intended use?

- A) Capacity B) Inspection **C) Validation** D) Design review

What is the significance of term overfill?

- A) It is similar to overage
B) It is the excess volume to be filled in containers as vials, ampoules to avoid loss by degradation
C) It is the excess filling of container as vials, ampoules to avoid the loss during use
D) It is violation of packaging regulation as per GMP.

Identify the FALSE statement.

- A) A characteristic of drugs eliminated by zero order kinetic process is that the half-life is not constant.
B) The plasma drug concentration versus time curve for a drug eliminated by zero order kinetics is linear.
C) A fundamental characteristic of all first order pharmacokinetic processes is that the rate of the process is proportional to drug concentration.
D) **A characteristic of absorption by lipid diffusion is its saturability at high drug concentrations.**

What is the required floor area for running a pharmacy for wholesale or distribution?

- A) 6 sq meters B) 10 sq meters **C) 15 sq meters** D) 30 sq meters

Bioavailability differences among drug's oral formulations are most likely to occur if it:

- A) is freely water soluble **B) is incompletely absorbed**
C) is completely absorbed D) undergoes little first-pass metabolism

Match the drugs with their receptor profiles.

- | | |
|----------------|---|
| 1) Ergotamine | P) 5-HT _{2A} antagonist |
| 2) Ondansetron | Q) 5-HT ₁ partial agonist/ antagonists |
| 3) Sumatriptan | R) 5-HT ₃ antagonist |
| 4) Ketanserin | S) 5-HT _{1D} agonist |
- A) 1-R, 2-S, 3-Q, 4-P** **B) 1-Q, 2-R, 3-S, 4-P**
C) 1-R, 2-S, 3-P, 4-Q D) 1-S, 2-R, 3-P, 4-Q

OROS is a technology developed for/as:

A) Oral release rapid onset system

B) Orally-rapid disintegrating tablet

C) Osmotic controlled oral drug delivery system

D) Transdermal drug delivery system

Match the schedules with the particulars they describe

1) Schedule T

P) Standards for patent or proprietary medicines

2) Schedule U

Q) Requirements/ guidelines to import &/or manufacture new drug

3) Schedule V

R) GMP practices for Ayurvedic, Siddha & Unani medicines.

4) Schedule Y

S) Particulars to be shown in the manufacturing records.

A) 1-R, 2-S, 3-Q, 4-P

B) 1-S, 2-Q, 3-P, 4-R

C) 1-R, 2-S, 3-P, 4-Q

D) 1-S, 2-R, 3-P, 4-Q

Which of the following UV rays cause cancer?

A) UVA

B) UVB

C) UVC

D) All of the above

Which are the types of antibodies involved in hypersensitivity reactions?

A) IgG and IgD

B) IgG and IgM

C) IgD and IgA

D) IgM and IgD

The term used to describe unequal distribution of colour on a tablet is:

A) Chipping

B) Mottling

C) Lamination

D) Double impression

Match the events in tablet manufacturing process with the effects found in tablets.

1) Rapid drying of coated tablets after coating

P) Increased disintegration time

2) Use of highly viscous solution

Q) Weight variation

3) Improper feed rate from hopper

R) Orange peel

4) Excessive compression force

S) Blistering

A) 1-R, 2-S, 3-Q, 4-P

B) 1-R, 2-S, 3-P, 4-Q

C) 1-S, 2-R, 3-Q, 4-P

D) 1-R, 2-P, 3-S, 4-Q

2',3'-Didehydro-3'-deoxy thymidine is the chemical name of which of following antiviral agents?

A) Didenosine

B) Zidovudine

C) Stavudine

D) Zalcitabine

Oseltamivir is an antiviral drug. It produces its action by inhibiting which enzyme?

A) DNA polymerase

B) Neuraminidase

C) Integrase

D) Protease

Drug Z is a depolarizing neuromuscular blocking agent effective for the treatment of pinworm. Identify drug Z.

A) Pyrantel

B) Paromomycin

C) Praziquantel

D) Ivermectin

Methenamine used for UTI is a prodrug. How and to what is it converted into?

A) at low pH of urine, to formaldehyde

B) at high pH of urine, to aminosalicic acid

C) at low pH of urine, to aminosalicic acid

D) at high pH of urine, to formaldehyde

The correct order for the basic features of a mass spectrometer is:

A) acceleration, deflection, detection, ionisation

B) ionisation, acceleration, deflection, detection

C) acceleration, ionisation, deflection, detection

D) acceleration, deflection, ionisation, detection

In NMR spectrum, a signal is observed as a triplet. What will be the ratio of relative peak areas in this signal?

- A) 1:1:1 **B) 1:2:1** C) 1:3:1 D) 1:4:1

At pH 5, the ratio of the protonated to unprotonated forms of morphine pKa 7 would be:

- A) 1:100** B) 1:10 C) 10:1 D) 100:1

What structure is formed if the acyl side chain of penicillin is hydrolysed?

- A) **Penicillenic acids** B) Penillic acids
C) 7-Aminopenicillanic acid D) 6-Aminopenicillanic acid

All of the following except one are subject to therapeutic drug monitoring. Which one?

- A) Phenytoin B) Lithium C) Gentamicin **D) Losartan**

Thiamine deficiency causes decreased energy production because?

- A) It is required for the process of transamination
B) It is a co-factor in oxidative reduction
C) It is a co-enzyme for transketolase in pentose phosphate pathway
D) **It is a co-enzyme for pyruvate dehydrogenase & alpha ketoglutarate dehydrogenase**

Which of the following drugs are often found in both prescription and over-the-counter nasal decongestants?

- A) Alpha 2 agonists **B) Alpha1 agonists** C) Alpha 1 antagonists D) Beta 2 agonists

Within how many days a pharmacist should dispense diluted aqueous mixtures?

- A) 7 days B) 14 days C) 21 days D) 30 days

What molecular feature is penicillin G is said to mimic?

- A) Disaccharide of N-acetylmuramic acid N-acetylglucosamine
B) N-acetylneuraminic acid
C) The pentapeptide moiety of five glycine units

D) The dipeptide moiety D-Ala-D-Ala

If a drug is known to be distributed into total body water, how many milligrams are needed to obtain an initial plasma level of 5 mg/L in a patient weighing 70 kg?

- A) 210 B) 150 C) 50 D) 35

What does 'pharmacokinetical compartment' mean?

- A) Part of the body water which is located in the vascular system
B) Total body water
C) Plasma, intracellular fluid together, anatomical water compartments where drug is absorbed
D) Part of the body water in which the change of a drug concentration has the same kinetics.

The resistance to macrolide antibiotics by of gram positive organism is developed due to

- A) Decreases uptake of antibiotics
B) Synthesis of esterase enzyme that hydrolyzes lactone ring of macrolide
C) Methylation of 50S subunit at the antibiotic binding site
D) Increased metabolism of antibiotic

Why acetyl chloride undergoes nucleophilic substitution at a faster rate than methyl acetate

- A) The ester is more sterically hindered than the acid chloride
B) The chloride ion is a better leaving group than methoxide
C) The acid chloride is more sterically hindered than the ester
D) The methoxide ion is a better leaving group than chloride

In order to make a generic substitution; a pharmacist must do which of the following?

- A) Notify the patient of the substitution.**
B) Charge the same or lower price for the generic.
C) Place the brand name on the label and write "substitute for."
D) Obtain the physician's consent to substitute the product.

Which of the following groups can form ionic interactions and also act as a hydrogen bond acceptor?

- A) Hydroxyl group (OH) **B) Carboxylate group (RCOO⁻)**
C) Ammonium group (RNH₃⁺) D) Ketone (C=O)

Which of the following drug does not give pink colour with ruthenium red?

- A) Agar **B) Guar gum** C) Pectin D) Isabgol

The IUPAC name, 4-Amino-N-(5,6-dimethoxy-4-pyrimidinyl)benzenesulfonamide belongs to which generic drug?

- A) Sulfadimidine B) Sulfadoxine C) Sulfalene D) Sufamerazine

Method of Inspection is used to determine the absorption rate constant. It assumes that:

P) k_a is at least five times greater than k_{el} .

Q) Absorption is complete (i.e. > 95 % complete) at the time of the peak concentration

R) Both absorption and elimination are first order processes.

- A) P and Q B) Q and R C) Q and R D) P and R

The key concept of Total Quality Management (TQM) is:

A) total control of all quality related activities.

B) commitment of all employees to quality improvement and having team meetings.

C) top management's direct involvement.

D) the introduction of the ISO 9000 series.

What strategy of drug design is frequently used on complex lead compounds derived from natural products?

- A) Extension B) Simplification C) Rigidification D) Conformational blocking

Which type of photon detector is commonly microfabricated into arrays of 500 or more individual detectors?

- A) Photocell B) Phototube C) Photomultiplier tube D) Photodiode

Which of the following is a phase II drug metabolism reaction associated with genetic polymorphism?

- A) Glucuronidation B) Acetylation C) Reduction D) Glutathione conjugation

A gram-negative diplococcus associated with urinary tract infections, pelvic inflammatory disease, and conjunctivitis, meningitis is:

- A) *Neisseria gonorrhoeae* B) *Chlamydia trachomatis*
C) *Hemophilus influenzae* D) *Streptococcus pneumoniae*

Pregnancy test kits are designed to detect:

- A) Estrogen B) Human chorionic gonadotropin
C) Follicle-stimulating hormone D) Luteinizing hormone

A drug of low water solubility when given orally is absorbed up to 90% of the administered dose. The drug belongs to which class according to BCS classification?

- A) Class IV B) Class III C) Class II D) Class I

Which problem can arise if the material to be compressed into tablet tends to adhere to die walls?

- A) Picking B) Sticking C) Capping D) Marbling

What is the half life of Tc-99m?

- A) 66 years B) 66 hours C) 6 hours D) 60 minutes

Eudragits are:

- A) Phthalate polymers B) Cellulose polymers C) Acrylate polymers D) Amide polymers