

GPAT 2017

All the statements about dantrolene are correct EXCEPT:

- A) It is a nitrophenyl furfurylidene derivative. C) It is an imidazoline analogue.
B) It is a pyrazoline derivative. D) It is a skeletal muscle relaxant.

Which of the following alkaloidal drugs is used in the treatment of migraine?

- A) Atropine B) Ergotamine C) Vincristine D) Cocaine

In a free radical reaction, free radicals are formed at:

- A) initiation step B) propagation step C) termination step D) Both A and B

Product, _____, _____, and Promotion are four 'P's of marketing.

- A) Price and Place B) Place, Process C) Production, Process D) Price, Product

Which of the following conditions is treated with benzotropine?

- A) Parkinsonian disorders C) Huntington's disease
B) Atropine overdose D) Tardive dyskinesia

The techniques as gas chromatography and liquid chromatography are not appropriate for separation of amino acids. Choose the correct reason from the following.

- A) Amino acids are low polarity substances C) Amino acids are non polar substances
B) Amino acids high polarity substances D) Amino acids lowly charged substances

Bulk product is defined as:

- A) a product ready for final dispatch
B) product completing all processing stages but not necessarily final packing
C) raw material used for making final dosage form,
D) a defined quantity of raw material from the same batch

As per I.P. if the solubility range of a solute is 30 to 100 parts, it will be:

- A) Soluble B) Freely soluble C) Sparingly soluble D) Slightly soluble

Which gum is isolated from endosperm?

- A) Sterculia gum C) Guar gum
B) Tragacanth and acacia gum D) Xanthan and gellan gum

Phase 0 studies of clinical trials include which parameters?

- A) In silico studies B) Part of phase 1 C) Use of animals D) Microdosing

Which among the following describe the characteristic features of tetracycline?

- A) Forms minocycline in basic medium,
B) Forms anhydrous tetracycline in presence of acidic pH range
C) Undergoes epimerization in solutions having intermediate pH range
D) Forms stable chelate complexes with potassium ions

Which functional group is present in the molecule shown below?

-  A) Alcohol B) Amide C) Ether D) Ester

According to drugs and cosmetic act 1940, which literature is included into the Siddha system of medicine?

- A) Vrinda Chikitsa B) Yog Ratnakar C) Arka Praksh D) Nagmuni

Antioxidant used as blocking agent in sterile product is:

- A) Ascorbic acid esters
B) Sodium bisulphate
C) Ascorbic acid
D) EDTA

Match the nephrotoxic drugs with their mode of action of producing nephrotoxicity.

- a. Aminoglycoside antibiotics 1. Glomerular abnormality
b. ACE inhibitors 2. Tubular epithelial cell damage
c. Methotrexate 3. Hemodynamic mediated kidney injury
d. NSAIDs 4. Obstructive nephropathy

- A) a - 2; b - 3; c - 4; d - 1
B) a - 1; b - 2; c - 3; d - 4
C) a - 3; b - 4; c - 1; d - 2
D) a - 4; b - 1; c - 2; d - 3

Surface tension is categorized as a/an _____ factor.

- A) Intensive B) Extensive C) Tolerance D) Capacity

The most commonly used test of sensitivity to antimicrobial agent is:

- A) Kirby- Bauer techniques
B) Immunodiffusion techniques
C) Qudin procedure
D) Ouchterlony procedure

Which of the following reagents will reduce a disubstituted alkyne to cis-alkene?

- A) B_2H_6 B) $LiAlH_4$ C) Na and NH_3 D) Pd and H_2

Which fatty acid is not synthesized in the body and has to be taken from the diet?

- A) Palmitic acid B) Linolenic acid C) Oleic acid D) Stearic acid

According to USP which dissolution is included as Type IV dissolution apparatus?

- A) Paddle type C) Reciprocating cylinder
B) Paddle over disk apparatus D) Flow through cell

Which of the following chemical class of drugs is susceptible to oxidation?

- A) Sterols B) Lactam C) Esters D) Carbamates

If the drug substance has been substituted wholly or in part by another drug or substance, it is called as _____ drug.

- A) Adulterated B) Spurious C) Misbranded D) Mixed

One of the principles upon which HPLC detector functions is:

- A) Fluorimetric detector has high selectivity and low sensitivity.
B) Redox property of solute is the basis for functioning of Electrochemical detectors
C) Small difference in Refractive Index of mobile phase permit precise measurements.
D) Refractive index detectors

Methanolic extract of a crude drug powder when treated with magnesium turnings and concentrated hydrochloric acid turned the solution magenta coloured. The test is:

- A) Vitali Morin B) Van Urk's C) Keller Killiani D) Shinoda

The conservation of animals, ban on their hunting, their utilization in the experiments and is governed by which act?

- A) The Medicinal and Toilet Preparations Act, 1955
B) The prevention of cruelty to animal act, 1960
C) The Drugs and Cosmetics Act, 1940
D) The Pharmacy Act, 1948

Timolol if administered ophthalmically then which effect it will exhibit:

- A) Miosis
B) Increase formation of aqueous humor
C) Mydriasis
D) Decrease formation of aqueous humor

What will be the fraction of lidocaine in the ionized form, if its pKa is 7.9 and pH of the infected tissue is 8.9?

- A) 99%
B) 90%
C) 9%
D) 1%

Which of the following compounds will be oxidized by CrO₃ in acid?

- A) 4-Methylcyclohexene
B) 3-Methyl 3-hydroxycyclohexanone,
C) 4,4-Dimethyl-1-methyl-1,3-cyclohexandiol
D) 2-Methyl cyclohexanone

Which of the following constituents is responsible for colour of shellac?

- A) Laccic acid
B) Shelloic acid
C) Aleurotic acid
D) All of the above

When nucleotides are added into growing DNA strand during replication the enzyme involved is:

- A) DNA ligase
B) DNA polymerase
C) Restriction endonuclease
D) Reverse transcriptase

What is the specific rotation of a compound 'X' when the concentration is 0.5% w/v, angle of rotation is 1.3 and tube-length is 25 cm?

- A) 0.104
B) 1.04
C) 10.4
D) 104.0

Hoeppler viscometer is a type of:

- A) Falling sphere viscometer
B) Capillary viscometer
C) Cup and Bob viscometer
D) Cone and plate viscometer

Insulin and thyroxine reaches an organ cells at the same time. Thyroxine causes an effect on the organ but insulin does not because:

- A) The target cell in the organ has up-regulated for thyroxine.
B) The organ cells have receptors for thyroxine but no receptors for insulin.
C) Thyroxine is a lipid-soluble hormone and insulin is water soluble.
D) Thyroxine is local hormone and insulin is a circulating hormone.

What is the term used to describe a labeled piece of DNA that is complementary to the sequence of DNA under consideration?

- A) Receptor
B) Probe
C) Epitope
D) Target

What is the end product of purine metabolism in human?

- A) Urea
B) Purine oxide
C) Uric acid
D) Xanthine

Suspension study involves Ideal suspension property:

- A) Pseudoplasticity
B) Thixotropy and pseudoplasticity
C) Thixotropy and dilatancy
D) Pseudoplasticity and rheopecty

Using Young's rule, calculate the dose for a 5 year old child if the adult dose is 340 mg.

- A) 450 gm
B) 340 gm
C) 150 mg
D) 100 gm

Apparent volume of distribution will be highest for drug with % plasma protein binding:

- A) 89
B) 50
C) 68
D) 10

Beta oxidation of fatty acids takes place in:

- A) Choroplast
B) Cytoplasm
C) Mitochondria
D) Nucleus

- B) Ionic equation is $Ce^{3+} \rightarrow Ce^{2+} + e^-$.
 C) Formal potential of Ce (III) Ce (II) couple is 1.7.
 D) Ce (IV) does not permit use of HCl as reducing media.

Which of the following alkaloids has hypotensive activity?

- A) Reserpine B) Quinine C) Emetine D) Papaverine

Reduction of imines to give amines in protic solvents can be carried out by one of the following reagents.

Select the correct reagent.

- A) Sodium hydride C) Sodium chloride and HCl
 B) Sodium cyanoborohydride D) Lithium aluminium chloride

Hot stage microscopy is a tool in preformulation studies for the study of:

- A) Pseudopolymorphism C) Microbial contamination
 B) Particle size measurement D) Compaction behaviour

Which of the following is an example of hemiesters anionic surfactant for pharmaceutical emulsions?

- A) Lactylates B) Sarcosinates C) Sulfosuccinates D) Taurates

Which of the following are the major components in liquid glucose?

- A) Dextrin + starch B) Dextrose + starch C) Amylase + starch D) Glucose + starch

Which of the following are thymus hormones that promote maturation of T lymphocyte?

- P. Thymosin Q. Thymic humoral factor R. Thymic factor S. Interleukins

- A) P, Q and R B) P and Q C) Q and R D) Only S

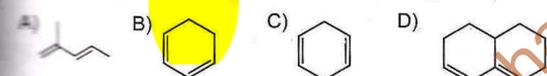
Which among the following is a Class-I method, used for rendering a solution of drug isotonic with body fluids?

- A) Cryoscopic method A option is correct C) Sprowls method
 B) White-Vincent method D) Hammarlund method

Diazepam is not suitable for peroral sustained release form since:

- A) It is not absorbed in ilium.
 B) It has biological half life greater than twelve hours.
 C) It has biological half life less than one hour,
 D) It has undesirable side effects which should be overcome.

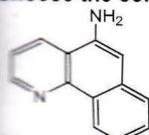
Which of the following dienes can undergo Diels-Alder reaction most readily?



Hixon Crowell's cube root law of dissolution states that:

- A) There is a change in particle size and surface area during dissolution of drug.
 B) High free energy of activation is required for solubilization.
 C) Dissolution process is controlled by diffusion of molecules/ions.
 D) Renewal of surface fluid layer around drug particles.

Choose the correct name for the following heterocyclic Compound.



- A) Benzo[g]quinolin-5-ylamine C) 1-Aminonaphtho[e] pyridine
 B) 1-Aminonaphtho[b] pyridine D) Benzo[h] quinolin-5-yl-amine

Which of the following chemical mediators of asthma is NOT a target for antiasthmatic drug in clinical use?

- A) Anticholinergics
B) Antihistaminics
C) Platelet activating factors
D) Cytokine inhibitors

Match the following adrenergic drugs with their receptor affinity:

- a. Epinephrine 1. More alpha 1, no beta 1, beta 2 & dopamine
b. Norepinephrine 2. More alpha 1 & beta 1, less beta 2, no dopamine
c. Phenylephrine 3. More beta 1 & beta 2, no alpha 1 & dopamine
d. Dobutamine 4. More alpha 1 & beta 1, no beta 2 & dopamine

- A) a - 2; b - 4; c - 1; d - 3
B) a - 1; b - 3; c - 4; d - 2
C) a - 3; b - 1; c - 2; d - 4
D) a - 4; b - 2; c - 3; d - 1

Etoposide and teniposide are the semisynthetic derivatives of:

- A) Umbelliferone
B) Podophyllotoxin
C) Stevioside
D) Colchicine

Which of the following procedures is not suitable for scale up?

- A) Liquid-liquid extraction
B) Crystallisation
C) Rotary evaporation
D) Distillation

The useful variable from in vitro dissolution test data for IVVC includes:

- A) $t_{50\%} - t_{63.2\%}$
B) Sampling interval
C) Sample volume
D) Volume of dissolution fluid

Which among the following is a structural variant of GABA and is used as a muscle relaxant?

- A) Tybamate
B) Baclofen
C) Metocurine
D) Cyclobenzaprine

When trans-2-butene is treated with bromine an anti-addition of bromine yields meso-2,3-dibromobutane.

Select the correct statement regarding the reaction.

- A) The reaction is stereoselective as well as stereospecific.
B) The reaction is stereoselective and not stereospecific.
C) The reaction is nonstereoselective as well as nonstereospecific.
D) The reaction is stereospecific and not stereoselective.

Which of the following genera is not the source for tropane alkaloids?

- A) Nicotiana
B) Duboisia
C) Datura
D) Atropa

In respect of female reproductive cycle, which of the following statements are correct:

1. The female reproductive cycle consists of menstrual phase, a pre-ovulatory phase, ovulation and a post-ovulatory phase.
2. During the menstrual phase, small secondary follicles in the ovary begin to enlarge while the uterus is shedding its lining.
3. During the pre-ovulatory phase, a dominant follicle continues to grow and begins to secrete estrogen and inhibin while the uterine lining begins to rebuild.
4. Ovulation results in the release of an ovum and the shedding of the uterus lining to nourish and support the release ovum.
5. After ovulation, a corpus luteum forms the ruptured follicles and begins to secrete progesterone and estrogen, which it will continue to do throughout pregnancy if the egg is fertilized.

6. If pregnancy does not occur, then the corpus luteum degenerates into a scar known as corpus albicans and uterine lining is prepared to be shed again.

- A) 1, 2, 3 and 6 B) 2, 3, 4 and 6 C) 1, 2, 4 and 5 D) 1, 4, 5 and 6

Which among the following are the salient features of Glucocorticoids?

- A) Gets combined with highly specific cytosolic glucocorticoid receptors
B) They promote phagocytosis by macrophages
C) Releases of lytic enzymes
D) Increases lipid eicosanoids and prostaglandin gene

The posological formula, Child's dose $D = (\text{Weight in pounds}/150) * \text{Adult Dose}$ is known as _____ formula.

- A) Clarke's B) Dilling's C) Young's D) Fried's

For the measurement of particle size of powders, the distance measured between two tangents on opposite sides of the particle parallel to some fixed direction is called:

- A) Feret diameter C) Projected area diameter
B) Martin diameter D) Edmundson diameter

Match the carcinogens with the preferable organs where it may cause cancer.

1. Arsenic 3. Cadmium compounds a. Prostate c. Leukemia
2. Benzene 4. Vinyl chloride b. Angiosarcoma d. Hemangiosarcoma

- A) 1 - b; 2 - a; 3 - c; 4 - d C) 1 - d; 2 - c; 3 - a; 4 - b
B) 1 - c; 2 - d; 3 - b; 4 - a D) 1 - a; 2 - b; 3 - d; 4 - c

Which of the following statement regarding cerebral hemisphere is true?

- A) The right and left hemisphere are symmetrical.
B) This right more important for spoken and written language.
C) The left hemisphere is more important for musical and artistic awareness.
D) Hemispheric lateralization is more pronounced in male than in female.

Which of the following statement is true about following reaction?

- A) The product will have R configuration C) The reaction will happen with racemisation
B) The product will have S configuration D) The product will not have a stereocenter

Clavulanic acid is:

- A) Potent inhibitor of peptidoglycan synthesis C) Inactivates bacterial β -lactamase
B) Specific for gram negative bacteria D) Inhibitor of 50S ribosomal subunit

By whom vaccine was discovered?

- A) Edward Jenner B) Gerhard Domagk C) Paul Ehrlich D) Selman Waksman

The instructions for patient "To be diluted 20 times its volume with water" are printed on labels of which formulation?

- A) Mouthwash B) Elixir C) Linctus D) Tinctures

In Bismuth subgallate suppositories BPC, when no strength of the drug is specified, BPC directs _____ bismuth subgallate per suppository.

- A) 100 mg B) 200 mg C) 300 mg D) 400 mg

A patient receiving warfarin develops rheumatoid arthritis. Which one of the following drugs would be contraindicated?

- A) Ibuprofen B) Tolmetin C) **Asprin** D) Aurothioglucose

Which of the following drug is used for management of complicated malaria?

- A) Lumefantrine **B) Artemisinin** C) Mefloquine D) Piperaquime

Dielectric constant of Ethanol at room temperature is almost equal to:

- A) 24** B) 48 C) 78 D) 110

The type of particle diameter obtained by microscopic method of evaluation is:

- A) Stokes diameter C) Volume - surface diameter
B) Surface - volume diameter **D) Projected diameter**

Following are the list of various inherited metabolic disorders that can affect functioning of liver:

P. Primary biliary cirrhosis **Q. Glycogen storage disease**

R. Gilbert's syndrome **S. Haemochromatosis** **T. Wilson's disease**

- A) P, Q, R, S B) P, R, S, T **C) Q, R, S, T** D) P, Q, S, T

In relation to buccal and sublingual absorption, which of the following statements are correct?

P. Drugs absorbed by these routes bypass the liver and GIT.

Q. Absorption through buccal epithelium is not affected by partition coefficient of drug.

R. Buccal absorption of basic drugs increases with increasing pH of their solutions.

S. Buccal absorption of acidic drugs increases with increasing pH of their solutions.

T. There is an optimum log P for sublingual absorption

- A) P, Q, R **B) P, R, T** C) Q, R, S D) Q, S, T

Match the pair of microscopic features with crude drugs.

1. Diacytic stomata and sessile, glandular trichomes a. Datura
2. Paracytic stomata and unicellular warty trichomes b. Vasaka
3. Anomocytic Stomata, and glandular, multicellular covering trichomes c. Senna
4. Anisocytic stomata and multicellular covering trichomes d. Digitalis

- A) a-1, b-4, c-2, d-3 **C) a-3, b-4, c-1, d-2,**

- B) a-2, b-3, c-4, d-1 D) a-4, b-2, c-1, d-3

Which of the following drug is associated with the reaction of extreme photosensitivity?

- A) Tetracycline **B) Digitalis** C) Niacin **D) Fluoroquinolone**

A option also correct but d option more correct

All the dopaminergic agonists having affinity for D2 receptors are clinically used in following conditions EXCEPT

- A) **Obsessive-compulsive disorder** C) Acromegaly
B) Hyperprolactinemia D) Parkinsonism

Rubella virus is associated with disease:

- A) Enterovirus infection C) Brucellosis
B) Yellow fever **D) Progressive encephalitis**

The cells that contribute for immune system are:

1. T Lymphocytes 2. Eosinophil 3. B Lymphocytes 4. Dendritic cells 5. Erythrocytes 6. Natural killer cells

- A) 1, 2, 4 and 6 **B) 1, 3, 4 and 6** C) 1, 3, 5 and 6 D) 1, 2, 5 and 6

The only analgesic acting centrally is: **A option also possible but B is correct**

- A) Tramadol B) Methadone C) Naloxone congeners D) Naloxone

All of the following statements regarding estrogen therapy in postmenopausal women are true EXCEPT:

- A) **It restores the loss of bone mass due to osteoporosis.** C) Administration in a regimen including a progestin.
B) It may be useful to treat vasomotor symptoms. D) It is useful in the treatment of atrophic vaginitis

Which of the following formulations under ASU system are offered infinite period of shelf life in D and C Act?

- A) Kwatha B) Gutika C) **Asava & Arishta** D) Churna

The major differences between the prokaryotic and eukaryotic protein synthesis mechanisms are in which part of the process?

- A) **The initiation of synthesis** C) The chain termination process
B) The chain elongation process D) None of the above

Which of the following dosage form of digoxin will provide greater bioavailability based on value of F?

- A) **F equals 1.0** B) F equals 0.77 C) F equals 0.62 D) F equals 0.32

Match the hemopoietic precursor cells with the cells into which they mature.

- | | | | |
|-------------------|---------------|----------------|-----------------|
| a. Reticulocyte | c. Myeloblast | 1. Platelets | 3. Erythrocytes |
| b. Megakaryoblast | d. Monoblast | 2. Macrophages | 4. Neutrophils |
- A) **a - 3; b - 1; c - 4; d - 2** C) a - 2; b - 4; c - 3; d - 1
B) a - 1; b - 3; c - 2; d - 4 D) a - 4; b - 2; c - 1; d - 3

An inventory turnover of _____ a year is considered satisfactory.

- A) One to two times B) **Four to six times** C) Six to eight times D) None of the above

The number of glucopyranose units in the structure of alpha cyclodextrins are:

- A) 6 **A option** B) 8 C) 9 D) 7

The compound 2-(Diethylamino) ethyl (bicyclohexyl) -1-carboxylate hydrochloride is:

- A) **Diphenhydramine** C) Both nicotinic and specific antispasmodic
B) Dicycloverine D) Diagnostic agent for thyroid gland

In new product development process, which step does follow the step of analysis of business?

- A) **Brand marketing** C) Test marketing
B) Penetration marketing D) Individual marketing

Which of the following techniques is not useful to detect polymorphs?

- A) **HPLC** C) PXRD
B) DSC D) Melting point determination

Free flowing powders show a flatter cone and have _____ angle of repose.

- A) Larger **A option** B) Smaller C) Intermediate D) None of the above

The WIPO promotes protection of:

- A) World heritage properties C) Intellectual properties
B) **World pharmaceutical organizations** D) World trade organizations

Herpesviruses are large encapsulated viruses that have double stranded DNA genome that encodes approximately 70 proteins. It causes acute infection followed by latent infection in which virus persist in

noninfectious form with periodic reactivation and shedding of infectious virus. Following are the examples of such herpesvirus – except:

- P. Epstein-Barr virus Q. Herpes simplex R. Varicella Zoster S. Cytomegalovirus
A) Only Q B) Q and R C) Q, P and R **D) P, Q R and S**

Neuropathy is adverse effect of:

- A) **Isoniazid** B) Ethambutol C) Pyrazinamide D) Rifampin

The method by which different constituents of a liquid mixture can be separated without decomposition of the constituents is:

- A) Steam distillation C) Distillation under reduced pressure
B) Fractional distillation **D) Molecular distillation**

Condensation product of diethyl ester of ethyl isopentyl malonic acid with urea and sodium ethoxide yields:

- A) Phenobarbitone **B) Amobarbitone** C) Pentobarbitone D) Quinobarbitone

In atomic spectroscopy, chemical interferences are common than spectral interferences due to:

- A) **Formation of compounds of low volatility** C) Increase in rate of atomization
B) Ionization in flames D) No shift in ionization equilibria

Which among the following statements on electro analytical methods are correct?

- A) Polarography involves plotting of conductance – voltage
B) Potentiometry involves application of Ilkovic equation
C) **Conductance is measured between two electrodes with AC powered Wheatstone bridge**
D) Coulometry involving application of Nernst law relating equivalence between quantity of electricity passed and amount of compound generated at electrodes

SDS is used in PAGE of a mixture of proteins for their efficient separation on the gel. SDS, in the experiment is used to _____.

- A) Stabilize the proteins C) Solubilize the proteins
B) **Have uniform charge density on the proteins** D) Decrease the surface tension of buffer

Indicate which of the following general statements are true:

- A) A weakly basic drug is fully ionised when pH of the solution is at least 2 pH units greater than its pKa.
B) **A weakly acidic drug is unionised when pH of solution is at least 2 pH units below its pKa.**
C) The higher the pKa of a weak acid, the stronger is the acid.
D) Acidic drugs are less soluble in alkaline solution.

Pharmaceutical alternatives possess:

- A) **Identical therapeutic moiety/precursor but not in the same amount/dosage form**
B) Same amount of therapeutic moiety
C) Same dosage form
D) Same formulation ingredients in exactly same amount

A crude drug powder was heated with ferric chloride, water and conc. HCl followed by extraction with chloroform. The chloroform layer was treated with ammonia, the ammonical layer turned pink. The test indicates presence of which phytochemical?

- A) Anthraquinone-C glycosides B) Flavanones

C) Cardiac glycosides

D) Saponin glycosides

Which of the following is a characteristic of cytochrome P-450?

A) Located in the lipophilic environment of mitochondria

C) Catalyzes aromatic and aliphatic hydroxylations

B) Catalyzes O-, S-, N-methylation reactions

D) Catalyzes conjugation reactions

Which of the following statements about K_m , the Michaelis constant in Michaelis-Menten kinetics is correct?

A) is defined as the concentration of substrate required for the reaction to reach maximum velocity.

B) is defined as the dissociation constant of the enzyme-substrate complex.

C) is expressed in terms of the reaction velocity.

D) is a measure of the affinity the enzyme has for its substrate

Which among the following electronic systems are not involved in the origin of UV spectrum?

A) s and p shell electrons

C) Charge transfer electrons

B) s and p electrons,

D) D and f shell electrons

Which of the following is not a thermoplastic resin?

A) Polystyrene

B) Polyethylene

C) Phenolic plastic resin

D) Polypropylene

Amantidine is helpful in Parkinson's disease because:

A) It decreases cholinergic activity.

C) It is metabolized into dopamine.

B) It liberates dopamine from nerve endings.

D) It increases adrenergic activity.

An intermediate 3-Chloroaniline- 4, 6- disulphonamide on heating with formic acid gives a drug:

A) 3-chloro-2H 1,2,4- benzothiadiazine 7 sulphonamide 1,1-dioxide.

B) 6- chloro 2H -1,2,4 benzothiadiazine 7- sulphonamide 1,1-dioxide.

C) Used in treatment of urinary tract infections.

D) Used as antibacterial.

If the excitation energy of the resonance level is 2.10 eV (when $hc=12,330$) then what will be the wavelength of resonance line of sodium atoms?

A) 597.2 nm

B) 587.2 nm

C) 577.2 nm

D) 567.2 nm

After vascular injury, platelets come in contact with contents of extracellular matrix as collagen and adhesive glycoproteins. With this contacts, platelets undergo:

1. Adhesion

2. Secretion

3. Aggregation

4. Degradation

A) 1, 2 and 3,

B) 1, 2 and 4,

C) 2, 3 and 4,

D) 1, 2, 3 and 4

A reporting relationship in which an employee receives orders from, and reports to, only one supervisor is known as:

A) Unity of command

B) Centralisation

C) Decentralisation

D) Line of authority

Which of the following adverse effects is caused by thioridazine?

A) Tardive dyskinesia

C) Orthostatic hypotension

B) Constipation

D) All of the above

Dissemination of cancer occurs through one of the following pathway - except:-

A) Hematogenous spread

B) Migration

C) Lymphatic spread

D) Direct seeding