

which of the following about the Varicella-Zoster Virus (VZV) is NOT true?

- i. Varicella develops after an individual is exposed to VZV for the first time
- ii. Herpes zoster develops from reactivation of the virus later in life
- iii. There are no vaccine for this virus
- iv. The infection results in post-herpetic neuralgia

Hemophilia A is a disease characterized by deficiency of:

- 1) Factor VIII 2) Factor II 3) Factor VII 4) Factor V

Which of the following is NOT a gene associated with breast cancer?

- 1) BRCA1 2) HER2 3) BRCA2 4) CHRM1

The following is NOT true for furosemide:

- 1) Causes hypokalemia 3) Causes hypomagnesemia  
2) Causes hypouricemia 4) Acts by inhibiting sodium reabsorption

The enzyme HMG-CoA reductase is involved in the pathogenesis of:

- 1) Atherosclerosis 3) Alzheimer disease  
2) Renal failure 4) Parkinson disease

Rheumatic heart disease is caused by:

- 1) Streptococcal infection 3) Abnormal lipid metabolism  
2) Excessive lipid consumption 4) Atherosclerosis

Galactose and Glucose are:

- 1) Epimers 3) Isomers  
2) Anomers 4) Ketose-Aldose isomers

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Which of the following is NOT true about the Ebola Virus Disease (EVD)?

- 1) Spreads through human-to-human transmission via direct contact  
2) Antiviral drugs are approved by FDA to mitigate the infection  
3) Diagnostic tests include ELISA  
4) The virus is named after a river

Hypodermoclysis refers to which route of drug administration?

- 1) Sublingual 2) Intradermal 3) Subcutaneous 4) Intravenous

Which of the following is a shortest acting cholinesterase inhibitors enlisted below?

- 1) Neostigmine 2) Pyridostigmine 3) Edrophonium 4) Physostigmine

Which of the following is a suitable antidote for mercury poisoning?

- 1) Atropine 2) Dimercaprol 3) Naloxone 4) Nalorphine

Histamine concentration is highest in:

- 1) Beta cells 2) Mast cells 3) Lymphocytes 4) Adipocytes

Select the  $\beta$ -lactamase inhibitor.

- 1) Griseofulvin 3) Sulfamethoxazole  
2) Clavulanic acid 4) Tetracycline

The mechanism of action of ciprofloxacin is inhibition of:

- 1) protein synthesis by interacting with 30s ribosome  
2) protein synthesis by interacting with 50s ribosomes  
3) DNA synthesis by interacting with topoisomerase  
4) cell wall synthesis

Which of the following is NOT CORRECT for myasthenia gravis?

- 1) Down regulation of nicotinic receptors (Nm) leads to myasthenia gravis  
2) Tubocurarine is used to treat myasthenia gravis  
3) It is an autoimmune disorder  
4) Thyrectomy is treatment option for myasthenia gravis

Which of the following describes the effect of sodium cromoglycate?

- 1) Mast cell degranulation 3) Leukotriene antagonism  
2) Mast cell stabilization 4) Glucocorticoid receptor agonism

Which of the following side effect of ACE inhibitors result from inhibition of bradykinin breakdown?

- 1) Analgesia 2) Hyperglycaemia 3) Productive cough 4) Dry cough

Identify antihistamine drug with additional serotonin receptor blocking activity and good appetite stimulant property.

- 1) Cyproheptadine 2) Cimetidine 3) Ranitidine 4) Chlorpheniramine

Which of the following are the mechanisms of action of digitalis glycosides?

- i. Inhibition of  $\text{Na}^+/\text{K}^+$  ATPase enzyme.  
~. Reduction in the auriculo-ventricular conduction rate.  
ii. Increase in the cardiac output.  
iv. Acceleration of auriculo-ventricular conduction rate.

- 1) Only iii  
2) i, ii and iii  
3) ii, iii and iv  
4) Only i

**(Short Break Before we continue to third page of questions)**

**Which books and guides are best for GPAT?**

- For previous solved papers, subjective solved GPAT Guide by inamdar is best . Solutions are explained in detail and subject wise. Great addition to your notes.
- For notes and compilations, GPAT cracker by piyush and Birla parkashan guides are good.

[You can purchase these guides here](#)

You can view pharmagang post on: [List of best Books for GPAT here](#)

Now let us continue to GPAT 2018 questions on  
next page

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The technique of using very small metal particles coated with desired DNA in the gene transfer is called:

- 1) Microinjection
- 2) **Biolistic**
- 3) Liposome mediated
- 4) Electroporation

Arrange the following steps in sequence of their order for production of recombinant Insulin:

- a. Fusion of A and B chains for disulphide bond.
- b. Cyanogen bromide treatment to remove methionine and  $\beta$ -galactosidase.
- c. Introduction of A and B chain in the plasmid containing  $\beta$ -galactosidase gene.
- d. Synthesis of A and B chain in E. coli.

- 1)  $a \rightarrow b \rightarrow d \rightarrow c$
- 2)  $d \rightarrow c \rightarrow a \rightarrow b$
- 3)  **$c \rightarrow d \rightarrow b \rightarrow a$**
- 4)  $b \rightarrow a \rightarrow d \rightarrow c$

Motif is represented by:

- 1) **Commas repeated on the lattice**
- 2) 3D translational periodic arrangement of points
- 3) Geometric shapes of lattice
- 4) Centre of symmetry in lattice

Statement 1: Vortex formation can be minimized by push pull mechanism.

Statement 2: Vortex formation reduces the mixing intensity by increasing the velocity of impeller.

- 1) **True, False**
- 2) True, True
- 3) False, False
- 4) False, True

Which of the following fluid can be considered as an ideal fluid?

- 1) Viscous fluid
- 2) **Non-viscous fluid**
- 3) Compressible fluid
- 4) All of these

Which of the following agencies is not classified as an 'executive agency' for administration of the act under the provision of Drugs and Cosmetics Act 1940?

- 1) Licensing authority
- 2) Drug inspectors
- 3) **Drugs Consultative Committee**
- 4) Customs collectors

As per Factories Act 1948, in CHAPTER VI dealing with working hours of adults, no adult worker shall be required or allowed to work in a factory for more than \_\_\_\_\_ hours in a week.

- 1) 30
- 2) 40
- 3) **48**
- 4) 56

Henri Fayol's principle 'Espirit de corps' means:

- 1) Corporate objective
- 2) Group objective
- 3) Team activity
- 4) **Team spirit**

How customer's bias about the product will influence the marketing communication?

- 1) Positive effect
- 2) Negative effect
- 3) No effect
- 4) **Both positive and Negative**

Which of the following is not patentable in India as per The Patents Act 1970?

- 1) New product
- 2) **New process**
- 3) New use of existing drug
- 4) New process for existing drug

Match the following enzymes in Column I with their respective functions in Column II.

Column I

Column II

i. DNA ligase

a) Synthesize a DNA copy of RNA



- ii. Alkaline phosphatase      b) Forms a bond between 3' -OH and 5'-PO<sub>4</sub>  
 iii. Reverse transcriptase      c) Removes terminal PO<sub>4</sub> from 3' or 5' end of DNA  
 iv. Polynucleotide kinase      d) Adds phosphate to 5' -OH end

- 1) i-c, ii-d, iii-a, iv-b      2) i-a, ii-b, iii-c, iv-d      3) i-b, ii-c, iii-a, iv-d      4) i-d, ii-a, iii-b, iv-c

Which of the following replacement of amino acid in a protein may produce greatest change in its conformation?

- 1) Ser → Thr      2) Glu → Val      3) Gln → Tyr      4) Phe → Ile

The hexose monophosphate pathway produces distinctively two useful products. Identify these products with the ratio in which they are produced.

- 1) One NADPH to two ribose-6-phosphate      3) Two NADPH to one ribulose-5-phosphate  
 2) Two NADPH to one ribose-5-phosphate      4) Two NADPH to one fructose-6-phosphate

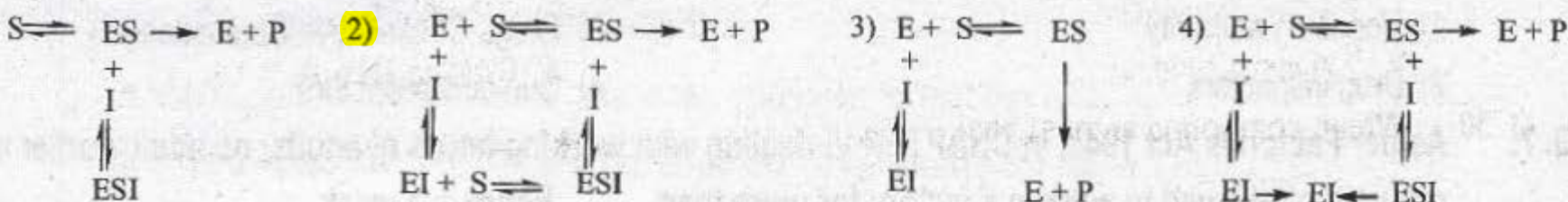
The correct statement about Vitamin D is:

- 1) The oral administration of 1, 25-dihydroxycholecalciferol is required in chronic renal failure  
 2) 25-Hydroxycholecalciferol is the active form of the vitamin  
 3) Vitamin D antagonizes the effects of parathyroid hormone (PTH)  
 4) A deficiency of vitamin D causes an increase in calcitonin secretion

All of the following enzymes are used in ELISA EXCEPT:

- 1) Glucose oxidase      3) Coagulase  
 2) Alkaline phosphatase      4) β-galactosidase

Which of the following equilibrium suggests noncompetitive inhibition of enzyme E for conversion of substrate S to product P with inhibitor I?



Which method is used for the Limit test for arsenic?

- 1) Gutzeit method      3) Arrhenius method  
 2) Oswald method      4) Karl-Fischer method

The agent used to prevent the dental caries is:

- 1) Sodium fluoride      3) Zinc chloride  
 2) Strontium chloride      4) Dicalcium phosphate

Which of the following definitions of an asymmetric reaction is the most accurate?

- 1) A reaction that creates a new chiral centre in the product  
 2) A reaction that involves a chiral reagent  
 3) A reaction which creates a new chiral centre with selectivity for one enantiomer/diastereoisomer over another  
 4) A reaction that is carried out on an asymmetric starting material

What software programme is used to determine the Verloop steric parameter in QSAR?

- 1) Alchemy      2) Chem3D      3) Sterimol      4) Chem-Draw



The oral oligosaccharide hypoglycemic agent, which is administered at the start of the meal is:

- 1) Pioglitazone                      2) Miglitol                      3) **Acarbose**                      4) Glimepride

Which functional group is crucial for anti-malarial activity of artemisinin?

- 1) Aldehydic functional group                      3) Ketonic functional group  
2) Ethylene bridge                      4) **Peroxide bridge**

Select the drug which exhibits dual alpha and beta adrenergic receptor agonists activity.

- 1) Terbutaline                      2) Clonidine                      3) Metaproterenol                      4) **Dobutamine**

Appropriate hybridization schemes for the C atoms in molecule  $\text{CH}_3\text{COOH}$  are:

- 1)  $\text{sp}^3$  and  $\text{sp}$                       2)  **$\text{sp}^3$  and  $\text{sp}^2$**                       3)  $\text{sp}^2$  and  $\text{sp}$                       4)  $\text{sp}^3$  and  $\text{sp}^3$

In Universal indicators, a pH of 7 is shown with:

- 1) Yellow color                      2) **Green color**                      3) Blue color                      4) Pink color

Which statement regarding Hückel's rule is FALSE?

- 1) There must be  $(4n + 2)$  pi ( $\pi$ ) electrons  
2) The molecule must be planar  
3) The molecule must be cyclic  
4) **Each of the pi ( $\pi$ ) electrons must be associated with a conjugated double bond**

Anthracene is isomeric with:

- 1) **Phenanthrene**                      2) Naphthalene                      3) Benzene                      4) Azulene

The molecular formula of phenanthrene is:

- 1)  **$\text{C}_{14}\text{H}_{10}$**                       2)  $\text{C}_{12}\text{H}_{10}$                       3)  $\text{C}_{14}\text{H}_{14}$                       4)  $\text{C}_{14}\text{H}_8$

In electrophilic substitution of pyridine, reaction of pyridine with  $\text{H}_2\text{O}_2$  in acetic acid leads to formation of:

- 1) 1,4-Dihydropyridine                      3) 2-Pyridone  
2) 2-Hydroxypyridine                      4) **Pyridine-N-oxide**

Which compound is most basic?



Correct Nomenclature for the following bridged bicyclic ring system is:



- 1) bicyclo[4.4.0]decane  
2) bicyclo[4.3.0]decane  
3) **bicyclo[4.3.1]decane**  
4) bicyclo[4.4.1]decane

Which among the following correctly defines Diastereomer?

- 1) These have same magnitude but different signs of optical rotation  
2) Nonsuperimposable object mirror relationship  
3) **These differ in all physical properties**  
4) Separation is very difficult



Which among the following is a non-essential amino acid?

- 1) Lysine                      2) Threonine                      3) Serine                      4) Histidine

Which of the following is a 3,3-sigmatropic reaction which converts a 1,5-diene to an isomeric 1,5-diene?

- 1) Cope rearrangement                      3) Photochemical [2+2] reaction  
2) Claisen rearrangement                      4) Diels-Alder reaction

What quantity of an indicator solution shall be added when quantity is not mentioned in an assay or test?

- 1) 0.1 ml                      2) 0.05 ml                      3) 0.2 ml                      4) 0.5 ml

In Kjeldahl method, sample containing nitrogen is digested with:

- 1) Conc. NaOH                      3) Conc.  $\text{H}_2\text{SO}_4$   
2) Fuming  $\text{HNO}_3$                       4) Strong  $\text{NH}_3$  solution

What is the concentration of paracetamol in a 0.1 N sodium hydroxide solution, whose absorbance in a 1 cm cell at its  $\lambda_{\text{max}}$ , 257 nm, was found to be 0.825? The A (1%, 1 cm) in the IP monograph of paracetamol is given as 715 at 257 nm

- 1) 1.1 g/100 ml                      2) 0.0011 mg/100 ml                      3) 0.0011 g/100 ml                      4) 0.0011  $\mu\text{g}$ /100 ml

The unit for specific absorbance A (1%, 1cm) is:

- 1)  $\mu\text{g}/\text{mL}$                       2)  $\text{mg}/\text{L}$                       3)  $\text{L}\cdot\text{mole}^{-1}\text{cm}^{-1}$                       4)  $\text{dL g}^{-1}\text{cm}^{-1}$

What is the nuclear magnetic resonance frequency of  $^1\text{H}$  in a 7.05 Tesla magnetic field strength?

- 1) 300.0 MHz                      2) 200.0 MHz                      3) 60.0 MHz                      4) 100 MHz

What is Hydrogen Deficiency Index (HDI) value for toluene?

- 1) 12                      2) 3                      3) 4

In NMR, the aromatic protons resonate in a characteristic narrow range at:

- 1)  $\delta$  6.5 -  $\delta$  8.0                      2)  $\delta$  11.0 -  $\delta$  12.0                      3)  $\delta$  2.0 -  $\delta$  4.0                      4)  $\delta$  0.7 -  $\delta$  1.3

The difficulties of long elution time and poor resolution of complex mixtures are observed in elution analysis. These difficulties can be overcome by modification of elution analysis, known as \_\_\_ analysis.

- 1) Isocratic-elution                      2) Gradient-elution                      3) Displacement                      4) Frontal

Materials whose consistency depends on the duration of shear, as well as on the rate of shear, exhibit:

- 1) Rheopexy                      2) Thixotropy                      3) Viscoelasticity                      4) Plasticity

Which of the following solutions are more likely to have the same osmotic pressure? Solutions of:

- 1) Diluted nonelectrolytes with the same molal concentration  
2) Concentrated nonelectrolytes with the same molal concentration  
3) Diluted electrolytes with the same molal concentration  
4) Concentrated electrolytes with the same molal concentration

Which statements are correct for the micelle formation?

P. Micelles are dynamic structures that are continually formed and broken down in solution.

Q. The typical micelle diameter is about 2-3  $\mu\text{m}$  and so they are visible under the light microscope.

R. Micelle formation is a spontaneous process.

S. When the surfactant concentration is increased above the CMC, the number of micelles increases and the free surfactant concentration decreases below CMC.

- 1) P and Q                      2) P and R                      3) P and S                      4) R and S



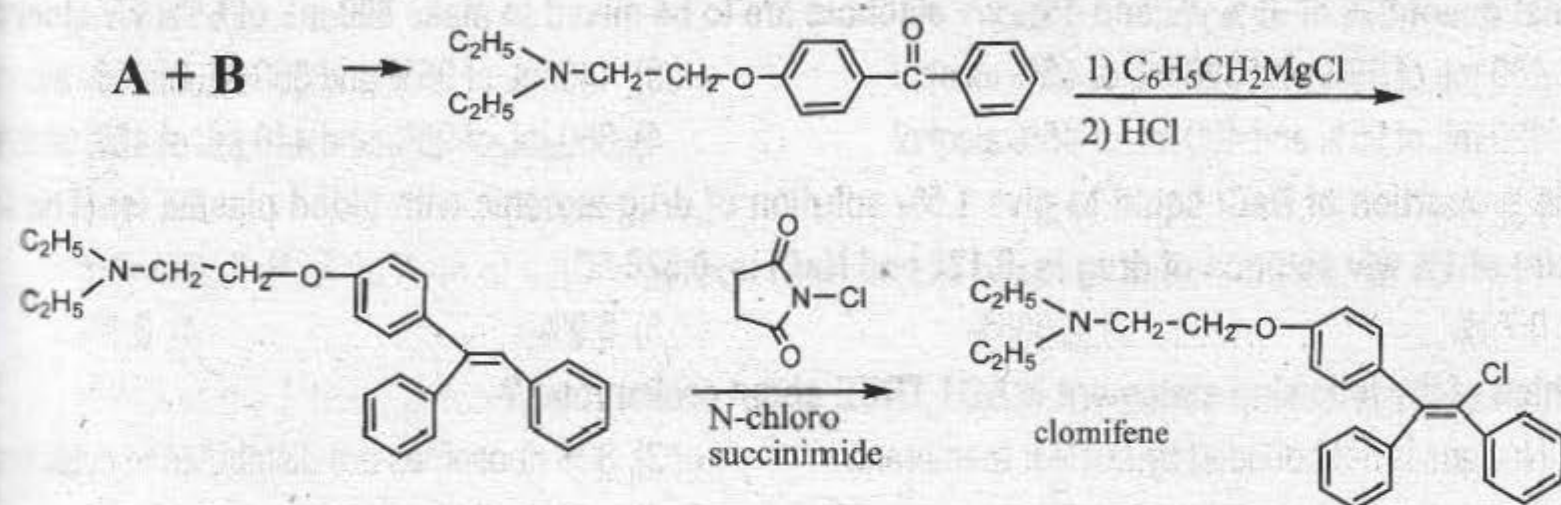
Which equation is used to predict the stability of a drug product at room temperature from experimental accelerated temperature?

- 1) Higuchi equation
- 2) The Arrhenius' equation
- 3) **Hildebrand equation**
- 4) The Hixson-Crowell equation

Which statement correctly describes Hess's Law?

- 1) The enthalpy of all reactants in their standard states is defined as zero
- 2) Enthalpy changes can be calculated only if one or more of the reactants is/are element
- 3) The enthalpy change of a reaction can be calculated only at 1 atm pressure and 25 °C
- 4) **The enthalpy change of a reaction is independent of the route of reaction**

Identify the starting material A and B in the synthesis of Clomifene.



- 1) **Where A= 4-hydroxy benzophenone and B = 2-diethylamino-ethyl chloride**
- 2) Where A= 4-hydroxy benzaldehyde and B = 4-methoxy aniline
- 3) Where A= 4-hydroxy benzophenone and B = 4-methoxy aniline
- 4) Where A= 4-hydroxy benzophenone and B = benzaldehyde

The role of glutathione in tissues includes all except:

- 1) Participate in decomposition of hydrogen peroxide
- 2) Participate in activation of methionine
- 3) Participate in detoxification reactions
- 4) **Biologically active in oxidized form**

When  $K_e$  is constant and  $K_a$  is larger:

- 1)  $C_{\max}$  is more and  $t_{\max}$  is longer
- 2)  $C_{\max}$  is lesser and  $t_{\max}$  is longer
- 3)  $C_{\max}$  is lesser and  $t_{\max}$  is short
- 4)  **$C_{\max}$  is more and  $t_{\max}$  is short**

When considering drug delivery to the brain which of the following is false?

- 1) The cells in the blood vessels that supply the brain are tightly connected which restricts drug absorption
- 2) Only relatively small lipophilic molecules readily, passively diffuse in to the brain
- 3) **Drugs with a low logP value show improved passive diffusion into the brain**
- 4) Polar molecules can be taken up into the brain through active transport

MVC utilizes the principles of statistical moment analysis:

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



The systems that follows, Weibull Mathematical Model used to describe drug release kinetics are:

- 1) Swellable polymeric devices
- 2) Diffusion matrix formulation
- 3) Erodible matrix formulation
- 4) Transdermal system

Which method is used by pharmacists for complete blending of potent powders with large quantities of diluents?

- 1) Spatulation
- 2) Levigation
- 3) Trituration
- 4) Geometric dilution

Substance used to reduce friction during tablet compression and facilitate ejection of tablets from the cavity is called as:

- 1) Lubricant
- 2) Glidant
- 3) Anti-adherent
- 4) Humectant

What quantities of 95% v/v and 45% v/v alcohols are to be mixed to make 800 mL of 65% v/v alcohol?

- 1) 480 mL of 95% and 320 mL of 45% alcohol
- 2) 320 mL of 95% and 480 mL of 45% alcohol
- 3) 440 mL of 95% and 360 mL of 45% alcohol
- 4) 360 mL of 95% and 440 mL of 45% alcohol

The proportion of NaCl liquid to give 1.5% solution of drug isotonic with blood plasma is: (The freezing point of 1% w/v solution of drug is  $-0.122^{\circ}\text{C}$  and NaCl is  $-0.576^{\circ}\text{C}$ )

- 1) 0.79%
- 2) 0.585%
- 3) 0.9%
- 4) 0.5%

Which of the following statement is NOT TRUE about prokaryotes?

- 1) Nucleus is not bounded by nuclear membrane
- 2) Cell wall contains peptidoglycan
- 3) 80S ribosomes are distributed in cytoplasm
- 4) It is Haploid in nature

Match the following diseases in column I with the respective causative organisms in Column II

Column I	Column II
i. Creutzfeldt-Jacob disease	a. Yersinia pestis
ii. Typhus	b. Prions
iii. Syphilis	c. Rickettsia prowazekii
iv. Plague	d. Treponema palladium

- 1) i-c, ii-d, iii-a, iv-b
- 2) i-a, ii-b, iii-c, iv-d
- 3) i-b, ii-c, iii-d, iv-a
- 4) i-d, ii-a, iii-b

As the dielectric constant value increases, the polarity of the solvents:

- 1) Decreases
- 2) Increases
- 3) Remains constant
- 4) Decreases and then remains constant

The angle of repose is calculated by:

- 1)  $\tan \alpha = \text{Radius/Height}$
- 2)  $\tan \alpha = 1 + \text{Radius/Height}$
- 3)  $\tan \alpha = 1 - \text{Radius/Height}$
- 4)  $\tan \alpha = \text{Height/Radius}$

Spray drying / spray congealing method is generally used to prepare:

- 1) Tablets
- 2) Microcapsules
- 3) Capsules
- 4) Ointments

HLB value of tragacanth is:

- 1) 4.7
- 2) 8.7
- 3) 13.2
- 4) 14.3

Vials and bottles are regularly not subjected to following test:

- 1) Sterility test
- 2) Clarity test
- 3) Leak (chamber) test
- 4) Pyrogen test



As per USP, test limit for treated soda lime glass with container size of 200 ml is:

- 1) 0.70 ml of 0.02N Acid
- 2) 1.0 ml of 0.2N
- 3) 0.20 ml of 0.02N Acid
- 4) 0.70 ml of 0.2N Acid

In plasma, phenobarbital is present as ionized and unionized forms in equal amount because:-

- 1) It is weakly acidic drug
- 2) It is weakly basic drug
- 3) pH of plasma is 6.8
- 4) pKa of the phenobarbital is 7.4

A material which is insoluble and inert and used in matrix tablet formulation is:

- 1) Polyethylene
- 2) Stearyl alcohol
- 3) Polyethylene glycol
- 4) Triglycerides

Which test is done for USP Type-I glass containers for injections?

- 1) Water attack test
- 2) Powdered glass test
- 3) Powdered glass followed by water attack test
- 4) Water attack followed powdered glass test

Isoelectric point of Type A gelatin is:

- 1) pH 7.0
- 2) pH 4.7
- 3) pH 9.0
- 4) pH 7.4

What is the effective ratio of methyl paraben and propyl paraben for anti-microbial activity?

- 1) 1:1
- 2) 5:1
- 3) 2.5:1
- 4) 10:1

Which of the following formula is used to determine shelf life as per first order reaction?

- 1)  $t_{90} = 0.693/k$
- 2)  $t_{90} = 0.104/k$
- 3)  $t_{1/2} = 0.693/k$
- 4)  $t_{1/2} = 0.105/k$

Following are endogenous carriers use for targeted drug delivery EXCEPT:

- 1) Lipoprotein
- 2) Serum albumin
- 3) Erythrocyte
- 4) Microparticulates

The friability issue of the tablet can be solved by different ways EXCEPT:

- 1) Increasing the upper punch pressure of tablet machine
- 2) Addition of more tablet binder to granules
- 3) Increasing the moisture content of granules
- 4) Adjusting the lower punch pressure of tablet machine

What is the specific surface per unit volume  $S_v$  of spherical particles with density of  $3 \text{ gm/cm}^3$  and volume surface diameter,  $d_{vs}$  of  $2.57 \mu\text{m}$ ?

- 1)  $7.78 \times 10^3 \text{ cm}^2/\text{cm}^3$
- 2)  $2.33 \times 10^3 \text{ cm}^2/\text{cm}^3$
- 3)  $1.55 \times 10^3 \text{ cm}^2/\text{cm}^3$
- 4)  $1.00 \times 10^3 \text{ cm}^2/\text{cm}^3$

In a free-flowing powder, the bulk density and tapped density would be close in value, therefore, the Carr index would be:

- 1) Small
- 2) Medium
- 3) Large
- 4) None

Buffer capacity is also referred to as:

- 1) Buffer index
- 2) Buffer value
- 3) Buffer efficiency
- 4) All of these

Keesom interactions have a force of:

- 1) 0.5- 1 kcal/mol
- 2) 1-7 kcal/mol
- 3) 1-3 kcal/mol
- 4) None of these

Dipole -induced dipoles are also known as:

- 1) London forces
- 2) Keesom forces
- 3) Debye forces
- 4) Hydrogen bonding



The interfacial tension of oleic acid against water at 20°C is:

- 1) 15.6
- 2) 52.3
- 3) 428
- 4) 8.51

Suspensions of starch in water exhibit:

- 1) Plastic flow
- 2) Pseudoplastic flow
- 3) Dilatant flow
- 4) None of these

Very weak bases having  $pK_a < 5$ :

- 1) Are ionized in the entire pH range of GIT
- 2) Absorbed only in stomach
- 3) Are unionized at all pH values
- 4) None of these

During determination of absorption rate constant by method of residual, flip-flop phenomenon occurs when ( $K_a$  absorption rate constant and  $K_e$  overall elimination rate constant).

- 1)  $K_e/K_a \geq 3$
- 2)  $K_a/K_e \geq 3$
- 3)  $K_e/K_a \leq 3$
- 4)  $K_a/K_e \leq 3$

Which of the following disinfectant effectively destroys vegetative bacterial cells including Gram positive and Gram negative bacteria, bacterial endospores, fungi, and viruses?

- 1) 8% formaldehyde + 70% alcohol
- 2) 70% Alcohol
- 3) 0.1% Phenol aqueous
- 4) 0.1% Iodine aqueous

Which of the following are obligatory intracellular parasites?

- a) Virus
- b) Fungus
- c) Mycobacterium
- d) Rickettsia
- 1) all
- 2) (a), (b) and (c)
- 3) (c) and (d)
- 4) (a) and (d)

Select the correct statement.

- 1) Acids salt corresponding to an insoluble salt will be more water soluble than original salt
- 2) Hydroxides and oxides of compounds other than alkali metal cations and the common ions are generally water soluble
- 3) Sulphides are water soluble except for their alkali metal salts
- 4) Ammonium and quaternary ammonium salts are water insoluble

What is the viscosity of resulting liquid after mixing 300 mL of liquid A ( $\eta = 1.0$  cP) with the 200 mL of liquid B ( $\eta = 3.4$  cP)?

- 1) 2.2 cP
- 2) 1.4 cP
- 3) 1.6 cP
- 4) 1.8 cP

A compound increasingly used as standard practice for enhancing the flow of rubber latex by spraying to the scraped bark of the rubber tree increasing the latex yields from 36 to 130% is:

- 1) Brassinosteroids
- 2) Abscissic acid
- 3) Ethephon
- 4) Kinetin

The constituent of Cochineal is:

- 1) Cantharidin
- 2) Hirudin
- 3) Tannic acid
- 4) Carminic acid

The sweet taste and odour of fennel is due to:

- 1) Anethole
- 2) Fenchone
- 3) Eugenol
- 4) Phellandrene

Catechu is used in medicine as an:

- 1) Antidiabetic
- 2) Anti cancer
- 3) Antipyretic
- 4) Astringent

Tropane alkaloids are biosynthesized from which amino acid?

- 1) Phenylalanine
- 2) Tyrosine
- 3) Ornithine
- 4) Leucine

One mg of Lycopodium contains an average of:

- 1) 97000 spores
- 2) 96000 spores
- 3) 95000 spores
- 4) 94000 spores



Charaka, a physician belonged to which system of medicine?

- 1) Ayurveda
- 2) Unani
- 3) Siddha
- 4) Homeopathy

The CCCN code indicating the botanical drugs is:

- 1) 2211
- 2) 1122
- 3) 1211
- 4) 1311

Uncaria gambir belongs to the family:

- 1) Rubiaceae
- 2) Combretaceae
- 3) Punicaceae
- 4) Rosaceae

Alkanna tinctoria Boraginaceae roots are used in:

- 1) Dandruff
- 2) Tooth paste
- 3) Facial cleansing wash
- 4) Lipstick formulations and hair dyes

Identify the clotting factor which is known as Stuart factor or thrombokinase.

- 1) Clotting factor IV
- 2) Clotting factor VIII
- 3) Clotting factor X
- 4) Clotting factor XII

Which part of the eye is light sensitive (photosensitive)?

- 1) Iris
- 2) Sclera
- 3) Lens
- 4) Retina

Identify the specific site where maturation of sperm takes place.

- 1) Spermatic cord
- 2) Epididymis
- 3) Testis
- 4) Vas deference

Identify the hormone that stimulates sperm production in testes and ovulation in females.

- 1) Prolactin
- 2) Luteinising hormone
- 3) Follicle stimulating hormone
- 4) Adrenocorticotrophic hormone

Identify the correct pair from the following:

- 1) Sympathetic stimulation: Bronchoconstriction
- 2) Parasympathetic stimulation: Secretion of gastric juice
- 3) Sympathetic stimulation: Contraction of pupil
- 4) Parasympathetic stimulation: Dilatation of pupil

The number of subjects required in a phase 1 clinical trial is:

- 1) 20 to 100
- 2) Upto several hundred
- 3) 300 to 3,000
- 4) Several thousands

To obtain a more effective bronchodilation, the drugs that are combined along with  $\beta$ -adrenoceptor agonists are:

- 1) Cholinergic antagonists
- 2) Cholinergic agonists
- 3)  $\beta$ -adrenoceptor antagonists
- 4)  $\alpha$ -adrenoceptor antagonists

Which of the following antipsychotic drugs, at low doses, is combined with antidepressants in treatment resistant depression?

- 1) Chlorpromazine
- 2) Haloperidol
- 3) Risperidone
- 4) Fluphenazine

The management of Type-B adverse drug reaction is:

- 1) To reduce the dose
- 2) To withhold the dose and avoid in future
- 3) To increase the dose
- 4) To reintroduce and withdraw slowly

Abatacept, a fusion protein, and a co-stimulation blocker used in the treatment of rheumatoid arthritis blocks the:

- 1) Activation of T-cells
- 2) Inhibition of T-cells
- 3) Activation of B-cells
- 4) Inhibition of B-cells