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Participant ID	
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Test Center Name	
Test Date	04/06/2022
Test Time	12:30 PM - 2:30 PM
Subject	Chemical Engineering

Section : **Chemical Engineering**

Q.1 For identical feed composition, flow rate, conversion and for all positive reaction orders the ratio of the volume of mixed reactor to the volume of plug flow reactor

A. Is independent of the order of reaction

B. Increases linearly with increase in the order of reaction

C. Increases with increase in the order of the reaction

D. Deceases with increase in the order of reaction

Ans
✗ A. A
✗ B. B
✓ C. C
✗ D. D

Question ID : **5834935630**
Status : **Not Answered**
Chosen Option : **--**

Q.2 In the reaction A+B→R+S, the consumption of A followed the first order and the consumption of B followed zeroth order. What is the overall order?

A. 0

B. 1

C. 1.5

D. 2

Ans
✗ A. A
✓ B. B
✗ C. C
✗ D. D

Question ID : **5834935628**
Status : **Answered**
Chosen Option : **B**

Q.3 A space time of 20 min. means

A. 20% conversion is achieved in one min.

B. 80% conversion is achieved in one min.

C. 100% conversion of the reactant in 20 min.

D. One reactor volume of feed at specified conditions is processed in 20 min.

Ans ✗ A. A

✗ B. B

✗ C. C

✓ D. D

Question ID : **5834935629**
Status : **Answered**
Chosen Option : **C**

Q.4 Controlling film coefficient means

A. The coefficient which offers the largest resistance

B. The coefficient which offers the least resistance

C. The coefficient which doesn't offer any resistance

D. The average of the film thickness

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935583**
Status : **Answered**
Chosen Option : **B**

Q.5 Cavitation in a centrifugal pump results from

A. High discharge pressure

B. Low barometric pressure

C. High discharge velocity

D. High discharge rate

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935602**
Status : **Answered**
Chosen Option : **B**

Q.6 The equivalent diameter for pressure drop is ____ that for heat transfer.

A. Smaller than

B. Greater than

C. Equal to

D. Non related with

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935589**
Status : **Answered**
Chosen Option : **D**

Q.7 In feed-back control system G & H denote open-loop and close-loop transfer function respectively. The output – input relationship is

A. G/(1+H)

B. H/(1+G)

C. G/H

D. H/G

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935598**
Status : **Answered**
Chosen Option : **B**

Q.8 What is the solution of the differential equation $x\,dy - y\,dx = 0$?

A. $xy = c$

B. $y = cx$

C. $x + y = c$

D. $x - y = c$

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935652**
Status : **Answered**
Chosen Option : **A**

Q.9 An element 'A' form cation by loss of two electrons and 'B' gain two electrons to form Anion.
Then formula of Ionic compound formed is

A. A^2B

B. AB^2

C. AB

D. AB^3

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935660**
Status : **Answered**
Chosen Option : **C**

Q.10 Fog is an example of colloidal system of

A. Solid dispersed in gas

B. Solid dispersed in liquid

C. Liquid dispersed in gas

D. Gas dispersed in liquid

Ans
✗ A. A
✗ B. B
✓ C. C
✗ D. D

Question ID : **5834935639**
Status : **Answered**
Chosen Option : **C**

Q.11 1 litre gas at 760 torr is compressed to 0.8 litre at constant temperature. What is the final pressure of the gas?

A. 800 torr

B. 860 torr

C. 950 torr

D. 540 torr

Ans
✗ A. A
✗ B. B
✓ C. C
✗ D. D

Question ID : **5834935644**
Status : **Answered**
Chosen Option : **C**

Q.12 Trinitro Toluene (TNT) is

A. Used in glycerin manufacture

B. An explosive

C. Used in dye manufacture

D. In printing industry

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935635**
Status : **Answered**
Chosen Option : **B**

Q.13 For absorption of solute gas A in solvent B with chemical reaction of first order in A and B, the Hatta number is defined as

A. $\frac{K_1}{(K_{AB}\, C_B\, D_A)^{1/2}}$

B. $\left[\frac{K_{AB}\, C_B\, D_A}{{K_1}^2}\right]^2$

C. $\frac{(K_{AB}\, C_B\, D_A)^{1/2}}{{K_1}^2}$

D. $\frac{(K_{AB}\, C_B\, D_A)^{1/2}}{K_1}$

Where K_{AB} = Reaction rate constant, K_1 = Liquid phase mass transfer coefficient of physical adsorption, D_A = diffusion coefficient of A in liquid, C_B = Concentration of B

Ans ✗ A. A

✗ B. B

✗ C. C

✓ D. D

Question ID : **5834935627**
Status : **Answered**
Chosen Option : **A**

Q.14 Principle of fluid mechanics works on the utilization of --------.

A. Velocity

B. Accelerating mass

C. Volume

D. Work

Ans
✗ A. A
✗ B. B
✗ C. C
✓ D. D

Question ID : **5834935606**
Status : **Answered**
Chosen Option : **A**

Q.15 Water is extensively used as the heat exchange medium since

A. It has a low dirt factor

B. It has a high heat capacity

C. It has low viscosity

D. It is relatively less corrosive

Ans
✗ A. A
✓ B. B
✗ C. C
✗ D. D

Question ID : **5834935647**
Status : **Answered**
Chosen Option : **B**

Q.16 What is the value of, $(i^2+i^4+i^6+\ldots\ldots\ldots+i^{2n})$, when n is the even number?

A. 1

B. 0

C. -1

D. None of the above

Ans
✗ A. A
✓ B. B
✗ C. C
✗ D. D

Question ID : **5834935649**
Status : **Answered**
Chosen Option : **C**

Q.17 In a triangle XYZ , tan x=2 , tan y=4 ; then what is the value of tan z?

A. $\frac{6}{5}$

B. $\frac{5}{6}$

C. $\frac{6}{7}$

D. $\frac{7}{6}$

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935651**
Status : **Answered**
Chosen Option : **C**

Q.18 Mesh indicates the number of holes per

A. Square inch

B. Linear inch

C. Square foot

D. Linear foot

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935610**
Status : **Answered**
Chosen Option : **B**

Q.19 Penicillin is separated from fermented broth by

A. Ternary azeotropic distillation

B. Evaporation in calandria

C. Simple distillation

D. Extraction with amyl or butyl acetate

Ans ✗ A. A

✗ B. B

✗ C. C

✓ D. D

Question ID : **5834935636**
Status : **Answered**
Chosen Option : **B**

Q.20 Find the minimum value of function $f(x) = x^2 - x + 2$

A. $\frac{1}{2}$

B. $\frac{3}{4}$

C. $\frac{7}{4}$

D. $\frac{1}{4}$

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935650**
Status : **Answered**
Chosen Option : **D**

Q.21 As the entropy of the universe is increasing, day by day, the work producing capacity of a heat engine is

A. Not changed

B. Increasing

C. Decreasing

D. Data insufficient, can't be predicted

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935596**
Status : **Answered**
Chosen Option : **C**

Q.22 On moving the feed line (q-line) from saturated liquid feed (vertical position) to saturated vapour feed (horizontal position), if the slope of both operating lines is to be increased, then it will result in

A. Greater degree of separation with fixed number of trays

B. Increased reboiler load

C. Increased reflux ratio

D. None of these

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935626**
Status : **Answered**
Chosen Option : **A**

Q.23 The equation of the tangent to the curve $y = x^3$ at (1,1)

A. $x - 10y + 50 = 0$

B. $3x - y - 2 = 0$

C. $x + 3y - 4 = 0$

D. $x + 2y - 7 = 0$

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935653**
Status : **Not Answered**
Chosen Option : **--**

Q.24 Compounds having same molecular formula but different structural formulae are called

A. Allotropes

B. Isomers

C. Isotopes

D. Isobars

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935654**
Status : **Answered**
Chosen Option : **B**

Q.25 Pick out the correct relationship (where R_i = internal reflux ratio, R_o = External reflux ratio)

A. $(1+R_o) = R_o / R_i$

B. $(1-R_o) = R_o / R_i$

C. $(1+R_i) = R_o / R_i$

D. $(1-R_i) = R_o / R_i$

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935625**
Status : **Answered**
Chosen Option : **A**

Q.26 The weber number may be defined as the ratio of

A. Inertial forces to surface tension forces

B. Surface tension forces to pressure forces

C. Pressure forces to viscous forces

D. Viscous forces to gravity forces

Ans ✔ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935605**
Status : **Answered**
Chosen Option : **A**

Q.27 Correction is applied to LMTD for

A. Parallel flow

B. Counter flow

C. Cross flow

D. None of the above

Ans ✗ A. A

✗ B. B

✔ C. C

✗ D. D

Question ID : **5834935590**
Status : **Answered**
Chosen Option : **C**

Q.28 The conversion for a first order liquid-phase reaction A→ B in a CSTR is 50%. If another CSTR of the same volume is connected in series, then the % conversion at the exit of the second reactor will be

A. 60

B. 75

C. 90

D. 100

Ans ✗ A. A

✔ B. B

✗ C. C

✗ D. D

Question ID : **5834935631**
Status : **Answered**
Chosen Option : **D**

Q.29 Converging -diverging nozzles are also known as --------.

A. Pascal nozzle

B. Bernoulli's nozzle

C. Torricelli's nozzle

D. De laval' nozzle

Ans
✗ A. A
✗ B. B
✗ C. C
✓ D. D

Question ID : **5834935608**
Status : **Answered**
Chosen Option : **B**

Q.30 A Carnot cycle consists of the following steps:

A. Two isobarics and two isothermals

B. Two isothermals and two isoentropics

C. Two isochorics and two isobarics

D. Two isoentropics and two isochorics

Ans
✗ A. A
✓ B. B
✗ C. C
✗ D. D

Question ID : **5834935591**
Status : **Answered**
Chosen Option : **A**

Q.31 Styrene is produced from Ethyl benzene by the process of

A. De-hydrogenation

B. Oxidation

C. Alkylation

D. Dehydration

Ans ✔ A. A

✘ B. B

✘ C. C

✘ D. D

Question ID : **5834935634**
Status : **Answered**
Chosen Option : **A**

Q.32 The thermal efficiency of a reversible heat engine operating between two given thermal reservoirs is 0.4. The device is used either as a refrigerator or as a heat pump between the same reservoirs. Then the coefficient of performance as a refrigerator $(COP)_R$ and the coefficient of performance as a heat pump $(COP)_{HP}$ are

A. $(COP)_R=(COP)_{HP}=0.6$

B. $(COP)_R=1.5$; $(COP)_{HP}=2.5$

C. $(COP)_R=2.5$; $(COP)_{HP}=1.5$

D. $(COP)_R=(COP)_{HP}=2.5$

Ans ✘ A. A

✔ B. B

✘ C. C

✘ D. D

Question ID : **5834935594**
Status : **Answered**
Chosen Option : **C**

Q.33 If f = moles of vapour present per mole of feed, then the slope of feed line is (McCabe – Thiele method)

A. $\frac{1-f}{f}$

B. $\frac{f-1}{f}$

C. $\frac{-1}{f}$

D. $\frac{-f}{1-f}$

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935623**
Status : **Answered**
Chosen Option : **D**

Q.34 In gray body, emissivity is

A. Less than 1

B. Equal to 1

C. More than 1

D. None of the above

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935582**
Status : **Answered**
Chosen Option : **A**

Q.35 According to Chilton – Colburn analogy for mass transfer, $N_{St}\ N_{Sc}{}^{2/3}$ is equal to

A. f

B. f/2

C. 2f

D. 1/f

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935622**
Status : **Answered**
Chosen Option : **B**

Q.36 The Lewis number of a mixture is defined as

A. N_{Pr} / N_{Sc}

B. $N_{Pr}\ N_{Sc}$

C. N_{Sc} / N_{Pr}

D. $C_S\ (N_{Sc} / N_{Pr})$

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935619**
Status : **Answered**
Chosen Option : **B**

Q.37 Sphericity of a cubical particle, when the equivalent diameter is taken as the height of the cube is

A. 0.5

B. 1

C. $\sqrt{2}$

D. $\sqrt{3}$

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935615**
Status : **Answered**
Chosen Option : **B**

Q.38 The function of moderators in nuclear reactor is to

A. Slow down secondary neutrons

B. Absorb secondary neutrons

C. Control the chain reaction

D. None of these

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935646**
Status : **Answered**
Chosen Option : **C**

Q.39 मृगतृष्णाएं इनके उदाहरण हैं

A. क्रांतिक कोण

B. कुल अंत: परावर्तन

C. अपवर्तन

D. बहु परावर्तन

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935656**
Status : **Answered**
Chosen Option : **B**

Q.40 Which of the following factors influence a chemical system in accordance with the Le Chatelier's principle?

A. Concentration only

B. Pressure and concentration

C. Concentration, pressure and temperature

D. Temperature and pressure

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935640**
Status : **Answered**
Chosen Option : **C**

Q.41

Viscosity has the dimensions

A. $ML^{-1}T^{-1}$

B. $M^{-1}LT$

C. $ML^{-1}T^{-3}$

D. MLT^{-3}

Ans
✔ A. A
✘ B. B
✘ C. C
✘ D. D

Question ID : **5834935603**
Status : **Answered**
Chosen Option : **A**

Q.42 Critical thickness of insulation for a sphere is steady state heat conduction given by (h_o=heat transfer coefficient at outer surface)

A. $r_c=k/h_o$

B. $r_c=2k/h_o$

C. $r_c=h_o/2k$

D. $r_c=h_o/k$

Ans
✘ A. A
✔ B. B
✘ C. C
✘ D. D

Question ID : **5834935585**
Status : **Answered**
Chosen Option : **C**

Q.43 Normal temperature and pressure (N, T, P) corresponds to

A. 0°C and 760 mm Hg

B. 15°C and 760 mm Hg

C. 20°C and 760 mm Hg

D. 0°C and 1 kgf/cm^2

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935643**
Status : **Answered**
Chosen Option : **A**

Q.44 Solvent B is used to extract solute C from a given feed containing A and C. If solute C is more soluble in A than in B, the distribution coefficient for C will be

A. >>1

B. 1

C. <1

D. >1

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935624**
Status : **Answered**
Chosen Option : **C**

Q.45 Normal screwed fittings are used for pipes up to a diameter of --------inches.

A. 1.5

B. 3

C. 5

D. 9

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935648**
Status : **Answered**
Chosen Option : **A**

Q.46 केशिका नली में द्रव का चढ़ना ---- के कारण होता है

A. संसंजन

B. आसंजन

C. A और B दोनों

D. न तो A और न B

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935607**
Status : **Answered**
Chosen Option : **B**

Q.47 Bollman extractor

A. Is a static bed leaching equipment

B. Is used for extraction of oil from oil seed

C. Is a centrifugal extractor

D. Employs only counter current extraction

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935618**
Status : **Answered**
Chosen Option : **B**

Q.48 Closed system has ------ type of boundary wall

A. Impermeable

B. Permeable

C. Rigid

D. None of the above

Ans
✔ A. A
✗ B. B
✗ C. C
✗ D. D

Question ID : **5834935642**
Status : **Answered**
Chosen Option : **A**

Q.49 Laminar flow in a pipe, heat is transferred from hot wall to the liquid by

A. Conduction only

B. Convection only

C. Forced convection and conduction

D. Free convection and conduction

Ans
✗ A. A
✗ B. B
✔ C. C
✗ D. D

Question ID : **5834935586**
Status : **Answered**
Chosen Option : **D**

Q.50 For condensation of pure vapors, if the heat transfer coefficients in film wise and drop wise condensation are respectively h_f and h_d, then

A. $h_f > h_d$

B. $h_f < h_d$

C. $h_f = h_d$

D. h_f could be greater or smaller than h_d

Ans
✗ A. A
✔ B. B
✗ C. C
✗ D. D

Question ID : **5834935584**
Status : **Answered**
Chosen Option : **B**

Q.51 The binary diffusivity in gases and liquids vary respectively as

A. $T^{3/2}$ and T

B. T and $T^{3/2}$

C. $\sqrt{T}$ and $T^{3/2}$

D. $T^{3/2}$ and $\sqrt{T}$

Ans ✔ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935621**
Status : **Answered**
Chosen Option : **D**

Q.52 Which of the following relates the absorption and evolution of heat at the junction of a thermocouple to the current flow in the circuit?

A. Seebeck effect

B. Peltier effect

C. Joule heating effect

D. Thompson effect

Ans ✗ A. A

✔ B. B

✗ C. C

✗ D. D

Question ID : **5834935597**
Status : **Answered**
Chosen Option : **C**

Q.53 वह तापमान जिस पर एक वास्तविक गैस बोयले के नियम का अनुसरण करती है, उसे कहते है

A. त्रिक बिंदु

B. बोयले का तापमान

C. यूटेक्टिक बिंदु

D. व्युत्क्रम तापमान

Ans ✗ A. A

✔ B. B

✗ C. C

✗ D. D

Question ID : **5834935637**
Status : **Not Answered**
Chosen Option : **--**

Q.54 Anemometer is used to measure

A. Velocity

B. Pressure

C. Viscosity

D. Density

Ans ✔ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935600**
Status : **Answered**
Chosen Option : **A**

Q.55 During agitation of liquids, the

A. Froude number is independent for the curves between power number and Reynolds number in baffled system

B. Power number becomes independent of impellers Reynolds number at high Reynolds number, but is independent on the geometry of the impeller

C. Froude number is used to account for the effect of surface (e.g. The centre vortex) on the power number.

D. All A, B and C

Ans ✗ A. A

✗ B. B

✗ C. C

✔ D. D

Question ID : **5834935661**
Status : **Not Answered**
Chosen Option : **--**

Q.56 In the Vanderwaals equation of state, $(P+(a/V^2))(V-b) = RT$, the units of 'a' is

A. N-m

B. $N\text{-}m^2$

C. $N\text{-}m^4$

D. N-m/K

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935593**
Status : **Answered**
Chosen Option : **C**

Q.57 With increase in the capacity of screens, the screen effectiveness

A. Remains unchanged

B. Increases

C. Decreases

D. Decreases exponentially

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935609**
Status : **Answered**
Chosen Option : **C**

Q.58 The most suitable equipment for removing the fine dust particle (< 1μ dia.) from air below its dew point will be

A. Cyclone separator

B. Electrostatic precipitator

C. Bag filter

D. Wet scrubber

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935613**
Status : **Answered**
Chosen Option : **B**

Q.59 A designer chooses the value of fluid flow rates and specific heats in such a manner that the heat capacities of the two fluids are equal. A hot fluid enters the counter flow heat exchanger at 100 °C and leaves at 60 °C. The cold fluid enters the heat exchangers at 40 °C. The mean temperature difference between the two fluids is (in °C)

A. 60

B. 40

C. 20

D. 10

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935588**
Status : **Answered**
Chosen Option : **C**

Q.60 In ball mill operation, the feed size (D_f in meters) and the ball diameter (D_b in meters) are related as (where, k = Grindability constant)

A. $D_b{}^2 = \text{k}\, D_f$

B. $D_b = \text{k}\, D_f$

C. $D_b{}^3 = \text{k}\, D_f$

D. $D_b{}^2 = \text{k}\, D_f{}^2$

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935616**
Status : **Not Answered**
Chosen Option : **--**

Q.61 Molar flow rate of NH_3, when it is flowing at 112 lit/min through a non-reacting continuous reactor is ….moles/min.

A. 5

B. 10

C. 0.5

D. 1

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935632**
Status : **Answered**
Chosen Option : **C**

Q.62 Circulation pump is located below the evaporator to

A. Avoid cavitation

B. Avoid frequent priming

C. Create more suction head

D. None of the above

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935587**
Status : **Answered**
Chosen Option : **C**

Q.63 Overall order of reaction for which the rate constant has units of $(mol/L)^{-1/2}$. sec^{-1} is

A. -1/2

B. 1/2

C. 3/2

D. 5/2

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935633**
Status : **Answered**
Chosen Option : **C**

Q.64 Which of the following is most suitable for handling fibrous and dense slurries?

A. Propeller agitator

B. Cone type agitator

C. Turbine agitator

D. Radial propeller agitator

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935612**
Status : **Not Answered**
Chosen Option : **--**

Q.65 "The equilibrium value of the mole fraction of the gas dissolved in a liquid is directly proportional to the partial pressure of that gas above the liquid surface". This statement is known as

A. Raoult's law

B. Henry's law

C. Amgat's law

D. Dalton's law

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935641**
Status : **Answered**
Chosen Option : **B**

Q.66 A passenger in an Airplane can see the rainbow in a shape of

A. Arc

B. Cone

C. Circle

D. Sphere

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935658**
Status : **Answered**
Chosen Option : **D**

Q.67 Unit of viscosity is

A. Poise

B. Centipoise

C. Ns/m^2

D. All of the above

Ans
✗ A. A
✗ B. B
✗ C. C
✓ D. D

Question ID : **5834935599**
Status : **Answered**
Chosen Option : **D**

Q.68 Acidity or alkalinity of a solution is expressed by its pH value, which is defined as

A. Log 1/ $[H^+]$

B. -Log 1/ $[H^+]$

C. 1/ log $[H^+]$

D. -1/ log $[H^+]$

Ans
✓ A. A
✗ B. B
✗ C. C
✗ D. D

Question ID : **5834935638**
Status : **Answered**
Chosen Option : **B**

Q.69 In which one of the following situations, the entropy change will be negative?

A. Air expands isentropically from 6 bar to 3 bar

B. Air expands isothermally from 6 bar to 3 bar

C. Air is compressed to half the volume at constant pressure

D. Heat is supplied to air at constant volume till the pressure becomes double

Ans
✗ A. A
✗ B. B
✓ C. C
✗ D. D

Question ID : **5834935592**
Status : **Answered**
Chosen Option : **B**

Q.70 As the reflux ratio decreases, the

A. Separation becomes more efficient

B. Number of plates increases

C. Column diameter increases

D. None of these

Ans
✗ A. A
✓ B. B
✗ C. C
✗ D. D

Question ID : **5834935620**
Status : **Answered**
Chosen Option : **B**

Q.71 The most abundant metal in the earth's crust is

A. Copper

B. Aluminum

C. Silver

D. Silicon

Ans
✗ A. A
✓ B. B
✗ C. C
✗ D. D

Question ID : **5834935657**
Status : **Answered**
Chosen Option : **B**

Q.72 Filtrate flow-rate in case of a rotary dryer vacuum filter (in which $R_m << R_c$) is proportional to _____of the cycle time

A. $\sqrt{\mu}$

B. $1 / \sqrt{\mu}$

C. $1 / \mu$

D. $1 / \mu^2$

Where μ = Filtrate viscosity, R_m = Filtrate medium resistance, R_c = Cake resistance

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935617**
Status : **Not Answered**
Chosen Option : **--**

Q.73 चुंबकीय बल रेखाएं _____ से _____ ध्रुव की ओर बढ़ती है

A. उत्तर, दक्षिण

B. दक्षिण, उत्तर

C. मध्य, उत्तर

D. मध्य, दक्षिण

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : **5834935655**
Status : **Answered**
Chosen Option : **A**

Q.74 According to Kirchhoff's First and Second Law's, which quantities are conserved?

A. Charge and Potential Difference

B. Current and Potential Difference

C. Current and Energy

D. Charge and Energy

Ans ✗ A. A

✗ B. B

✗ C. C

✓ D. D

Question ID : **5834935659**
Status : **Answered**
Chosen Option : **B**

Q.75 Newton's law of viscosity relates the

A. Shear stress and strain

B. Velocity gradient and pressure intensity

C. Shear stress and rate of angular deformation in fluid

D. Pressure gradient and rate of angular deformation

Ans
✗ A. A
✗ B. B
✓ C. C
✗ D. D

Question ID : **5834935604**
Status : **Answered**
Chosen Option : **C**

Q.76 The necessary condition for phase equilibrium in a multiphase system of N components is that the

A. Chemical potentials of a given component should be equal in all phases

B. Chemical potentials of all component should be same in a particular phase

C. Sum of the chemical potentials of any given component in all the phases should be the same

D. None of the above

Ans
✓ A. A
✗ B. B
✗ C. C
✗ D. D

Question ID : **5834935595**
Status : **Answered**
Chosen Option : **C**

Q.77 Industrially, the process of sedimentation is conducted on a large scale in equipment called

A. Sorting classifiers

B. Cyclones

C. Thickners

D. Filters

Ans

✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935614**
Status : **Answered**
Chosen Option : **C**

Q.78 Differential manometer measures the

A. Absolute pressure

B. Gauge pressure

C. Pressure difference

D. Pressure gradient

Ans

✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : **5834935601**
Status : **Answered**
Chosen Option : **C**

Q.79 A straight line is obtained on plotting reciprocal of filtration rate Vs the volume of filtrate for ___ flow of filtrate.

A. Compressible cake and laminar

B. Incompressible cake and laminar

C. Compressible cake and turbulent

D. Incompressible cake and turbulent

Ans ✗ A. A

✓ B. B

✗ C. C

✗ D. D

Question ID : **5834935611**
Status : **Answered**
Chosen Option : **D**

Q.80 The storage tank for volatile liquid will have a roof which is of

A. Flat type

B. Conical type

C. Hemispherical

D. Floating head

Ans ✗ A. A

✗ B. B

✗ C. C

✓ D. D

Question ID : **5834935645**
Status : **Answered**
Chosen Option : **D**