FINAL ANSWER KEY

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Alphacode	A

Question1:-Hardness in water is caused by the presence of:
A:-sodium chloride
B:-sodium carbonate
C:-calcium chloride
D:-potassium nitrate
Correct Answer:- Option-C

Question2:-pH of acidic solution is:
A:-14
B:-7
C:-less than 7
D:-more than 7
Correct Answer:- Option-C

Question3:-Which of the following methods empolyes ion-selective membranes?
A:-sofening
B:-electrodialysis
C:-super-filtration
D:-flash evaporator
Correct Answer:- Option-B

Question4:-Coagulants help in settling of:
A:-suspended impurities only
B:-fine suspended impurities
C:-colloidal particles only
D:-both the suspended and colloidal particles.
Correct Answer:- Option-D

Question5:-Ultraviolet rays are used in water treatment for :
A:-illumination
B:-sterilization
C:-coagulation
D:-sedimentation
Correct Answer:- Option-B

Question6:-Which of following fuel gases possess the highest calorific value?
A:-water gas
B:-coal gas
C:-producer gas
D:-natural gas
Correct Answer:- Option-B

Question7:-The process of splitting of bigger hydrocarbons into smaller hydrocarbon molecules, is called:
A:-pyrolysis
B:-thermal decomposition
C:-cracking
D:-combustion
Correct Answer:- Option-C

Question8:-Analysis of flue gases is done by:
A:-Boy′s gas calorimeter
B:-Orsat apparatus
C:-retort
D:-Bomb calorimeter
Correct Answer:- Option-B

Question9:-Lignite is:

A:-lowest rank coal
B:-highest rank coal
C:-used in metallurgy of iron
D:-none of the above
Correct Answer:- Option-A

Question10:-During fermentation of molasses, the enzyme which converts glucose and fructose into alcohol is:
A:-zymase
B:-lypase
C:-invertase
D:-maltase
Correct Answer:- Option-A

Question11:-For good performance, the hydrocarbon molecules in a diesel fuel should be:
A:-branch-chained
B:-side-chained
C:-straight-chained
D:-aromatic
Correct Answer:- Option-C

Question12:-EDTA method of determining hardness of water can be used to determine:
A:-all types of hardness
B:-temporary hardness
C:-permanent hardness only
D:-alkaline hardness only
Correct Answer:- Option-A

Question13:-During reverse osmosis:
A:-Dissolved salts are pushed out through the semipermeable membrane
B:-only dissolved ionic salts are pushed out through the semipermeable membrane
C:-pure water is pushed out through semipermeable membrane.
D:-both water and dissolved salts are pushed out through the semipermeable membrane
Correct Answer:- Option-C

Question14:-Swimming for a long time in salt water makes the skin of one’s fingertips wrinkled. Which one of the following properties is responsible for this observation?
A:-Osmosis
B:-Dialysis
C:-Electrodialysis
D:-Coagulation
Correct Answer:- Option-A

Question15:-Reflectivity of a black body is ----------
A:-0
B:-0.5
C:-0.8
D:-1.0
Correct Answer:- Option-A

Question16:-For supporting horizontal cylindrical vessels ----------supports are commonly used
A:-saddle
B:-skirt
C:-lug
D:-bracket
Correct Answer:- Option-A

Question17:-Scale formation in boilers causes :
A:-no loss of heat
B:-wastage of heat
C:-increase in efficiency
D:-none of the above
Correct Answer:- Option-B

Question18:-Multiple effect evaporation is carried out ,to ----------
A:-decreases heat losses
B:-increase capacity
C:-decrease capital cost
D:-decrease working cost

Correct Answer:- Option-D

Question19:-The calorific value of a fuel is expressed as :

A:-kcal cm

B:-kcal cm^{-3}

C:-kcal m^{-3}

D:-cal m^{-3}

Correct Answer:- Option-C

Question20:-The process of vulcanisation makes rubber :

A:-soluble in water

B:-hard

C:-soft

D:-more elastic

Correct Answer:- Option-B

Question21:-Bakelite is manufactured by heating together :

A:-phenol and formaldehyde

B:-vinyl chloride and benzene

C:-phenol and acetone

D:-phenol and oxalic acid

Correct Answer:- Option-A

Question22:-A plastic which can be softened on heating hardened on cooling is called :

A:-thermoelastic

B:-thermoplastic

C:-thermosetting

D:-thermite

Correct Answer:- Option-B

Question23:-Desalination is a process of removing :

A:-oil

B:-mineral acids

C:-common salt

D:-hardness from water

Correct Answer:- Option-C

Question24:-Most popular and ideal disinfectant in water works is :

A:-bleaching powder

B:-ozone

C:-chlorine

D:-lime

Correct Answer:- Option-C

Question25:-Standard atmospheric pressure in terms of water column is :

A:-9.81m

B:-10.33m

C:-8.75m

D:-12.35m

Correct Answer:- Option-B

Question26:-Electrolytic conduction is due to :

A:-movement of the electrolyte through the external wire

B:-flow of electrons through the solution

C:-migration of ions to the oppositely charged electrodes

D:-flow of positive ions through the external wire

Correct Answer:- Option-C

Question27:-A galvenic cell converts :

A:-electrical energy into chemical energy

B:-chemical energy into electrical energy

C:-electrical energy into heat energy

D:-chemical energy into heat energy

Correct Answer:- Option-B

Question28:-Select a suitable adsorbent for the removal of phenolic contaminants from waste water

A:-active carbon

B:-silica gel

C:-molecular sieve

D:-alumina
Correct Answer:- Option-A
Question29:-The process of zinc coating over iron sheets by hot-dipping is called :
A:-galvanisation
B:-tinning
C:-sheradizing
D:-anodizing
Correct Answer:- Option-A
Question30:-Drying oils supply to paint film :
A:-main film-forming constituent
B:-medium or vehicle
C:-water-proofness
D:-all of these.
Correct Answer:- Option-D
Question31:-Butter is a colloidal sol containing :
A:-water dispersed in fat
B:-fat globules dispersed in water
C:-fat dispersed in casein
D:-suspension of casein in water
Correct Answer:- Option-A
Question32:-Tyndall effect is due to :
A:-absorption of light
B:-transmittance of light
C:-reflection of light
D:-scattering of light
Correct Answer:- Option-D
Question33:-The atomic number of an element is 9. During compound formation, it normally :
A:-gains 2 electrons
B:-loses 1 electron
C:-gains 1 electron
D:-losses 2 electrons
Correct Answer:- Option-C
Question34:-Nature of bonding in diamond is :
A:-ionic
B:-covalent
C:-coordinate
D:-metallic
Correct Answer:- Option-B
Question35:-Silicon is used in transistors as :
A:-conductor
B:-insulator
C:-semiconductor
D:-capacitor
Correct Answer:- Option-C
Question36:-Most poisonous pollutant in water is :
A:-arsenic
B:-phosphate
C:-zinc
D:-carbon dioxide
Correct Answer:- Option-A
Question37:-Bhopal gas tragedy in 1984 was caused by :
A:-carbonyl chloride
B:-carbon monoxide
C:-methyl cyanide
D:-methyl isocyanate
Correct Answer:- Option-D
Question38:-Which one of the following refractories is used in nuclear engineering as moderator?
A:-chromite bricks
B:-carborundum

C:-Beryllia bricks
D:-fire clay bricks
Correct Answer:- Option-C
Question39:-A bullet-resistant glass is obtained by:
A:-embedding a wiremesh at the centre of the glass sheet
B:-pressing together several layers of glass with vinyl resins in alternate layers
C:-using two or more plates of glass separated by 6-13mm thick gap containing dehydrated air
D:-none of the above
Correct Answer:- Option-B
Question40:-The single most important property of lubricating oil is its:
A:-fire-point
B:-cloud-point
C:-oiliness
D:-viscosity-index
Correct Answer:- Option-D
Question41:-Purest form of Iron is:
A:-steel
B:-wrought iron
C:-pig iron
D:-cast iron
Correct Answer:- Option-B
Question42:-Caprolactum is a monomer of:
A:-nylon-6
B:-Teflon
C:-PTFE
D:-Melamine
Correct Answer:- Option-A
Question43:-The emissivity of a real surface is always :
A:-greater than unity
B:-equal to unity
C:-less than unity
D:-less than or greater than unity
Correct Answer:- Option-C
Question44:-Asphalt is obtained from-------in a refinery
A:-residues
B:-intermediate distillates
C:-heavy distillates
D:-light distillates
Correct Answer:- Option-A
Question45:-An example of high explosive is :
A:-gun powder
B:-nitrocellulose
C:-TNT
D:-lead oxide
Correct Answer:- Option-C
Question46:-Identification of an organic compound can be established by using:
A:-UV spectroscopy
B:-IR spectroscopy
C:-chromatography
D:-none of the above
Correct Answer:- Option-B
Question47:-Which noise can be tolerated by human ear?
A:-20 decibels
B:-100 decibels
C:-80 decibels
D:-120 decibels
Correct Answer:- Option-C
Question48:-A fluid has no viscosity:
A:-real fluid

B:-ideal fluid
C:-Newtonian fluid
D:-Non-Newtonian fluid
Correct Answer:- Option-B

Question49:-The principle of continuity is based on
A:-law of conservation of energy
B:-law of conservation of mass
C:-law of conservation of momentum
D:-all of the above
Correct Answer:- Option-B

Question50:-The absolute pressure is equal to:
A:-gauge pressure - atmospheric pressure
B:-gauge pressure + vacuum pressure
C:-gauge pressure +atmospheric pressre
D:-Atmospheric pressure -gauge pressure
Correct Answer:- Option-C

Question51:-Which of the following is present in lemon?
A:-carbonic acid
B:-tartaric acid
C:-Oxalic acid
D:-citric acid
Correct Answer:- Option-D

Question52:-Which of the following pair have pH less than 7 ?
A:-tea and coffee
B:-gastric juice and NaOH
C:-lemon juice and lime water
D:-sodium carbonate and sodium bicarbonate
Correct Answer:- Option-A

Question53:-When blue litmus is added to dil. HCl
A:-it changes to white
B:-it remains blue
C:-it becomes red
D:-it changes to green colour
Correct Answer:- Option-C

Question54:-A gas is neither combustible nor supporter of combustion, turns most blue litmus paper red, used in cold drinks. The gas is:
A:-CO
B:-carbon dioxide
C:-hydrogen
D:-chlorine
Correct Answer:- Option-B

Question55:-If we add phenolphthalein to dil.HCl :
A:-The solution turns pink
B:-The solution remains colourless
C:-The solution becomes green
D:-The solution becomes orange red
Correct Answer:- Option-B

Question56:-You are advised not to see the SUN directly with your eye,because the converging light will destroy the :
A:-Retina
B:-Eye-ball
C:-Eye-lens
D:-Pupil
Correct Answer:- Option-A

Question57:-“When physical condition remain the same, the electric current flowing through a conductor is

directly proportional to the potential difference”. This law is called :
A:-Ohm’s law
B:-Ampere’s law
C:-Coulomb’s law
D:-Joule’s law

Correct Answer:- Option-A

Question58:-Rheostat is used to vary:

A:-current

B:-potential difference

C:-power

D:-resistance

Correct Answer:- Option-A

Question59:-Water movement against gravity is due to :

A:-Osmosis

B:-Respiration

C:-Photosynthesis

D:-Transpiration

Correct Answer:- Option-D

Question60:-During rainy season,it is difficult to open and close doors and windows due to:

A:-Imbibition

B:-Endomosis

C:-Exomosis

D:-Diffusion

Correct Answer:- Option-A

Question61:-The odour of sulphur dioxide gas is:

A:-Pungent

B:-Odourless

C:-Sweet smelling

D:-Foul smelling

Correct Answer:- Option-A

Question62:-The problems of fluid statics are influenced by the following forces:

A:-gravity and viscous forces

B:-gravity and pressure forces

C:-viscous and surface tension forces

D:-gravity and surface tension forces

Correct Answer:- Option-B

Question63:-Mercury is generally used in manometers for measuring:

A:-low pressure accurately

B:-large pressure accurately

C:-all pressures except the smaller ones

D:-very low pressures

Correct Answer:- Option-C

Question64:-The flow in a river during the period of heavy rainfall is:

A:-steady,uniform,two-dimensional

B:-unsteady,uniform and three-dimensional

C:-unsteady,non-uniform and three-dimensional

D:-steady,non-uniform and three dimensional

Correct Answer:- Option-C

Question65:-A pitot-tube is an instrument for measuring:

A:-pressure of flow

B:-discharge of fluid

C:-velocity of flow

D:-total energy

Correct Answer:- Option-C

Question66:-The coefficient of discharge of a venturimeter lies within the limits:

A:-0.7-0.9

B:-0.6-0.8

C:-0.75-0.95

D:-0.95-0.99

Correct Answer:- Option-D

Question67:-The Reynolds experiments for determining the character of flow in pipes involved:

A:-the measurement of velocity by pitot-tube

B:-measurement of flow only

C:-observation of the condition of dye -filament which become wavy or irregular at the onset of the turbulence.

D:-measurement of intensity of turbulence

Correct Answer:- Option-C

Question68:-The laminar flow is characterized by:

A:-irregular motion of fluid particles

B:-fluid particles moving in layers parallel to the boundary layer

C:-high Reynolds number of flow

D:-existence of eddies

Correct Answer:- Option-B

Question69:-The parameters which determines the friction factor for turbulent flow in rough pipe are:

A:-Froude number and relative roughness

B:-Froude number and Mach number

C:-Reynolds number and relative roughness

D:-Mach number and relative roughness

Correct Answer:- Option-C

Question70:-In orifice flow, the vena contracta represents:

A:-the section where the jet has maximum flow area

B:-the location where the jet area is minimum , the streamlines parallel and the pressure atmospheric

C:-the section where the pressure is above atmospheric

D:-the opening of orifice itself

Correct Answer:- Option-B

Question71:-What is the major use of carbon molecular sieve?

A:-separation of lower hydro-carbons

B:-adsorption of organics from drinking water

C:-separation of air to produce nitrogen

D:-separation of suspended impurities from air

Correct Answer:- Option-C

Question72:-Rotameter is used for measuring:

A:-density of fluids

B:-velocity of fluids in pipes

C:-viscosity of fluids

D:-discharge of fluids

Correct Answer:- Option-D

Question73:-Joule-sec is the unit of

A:-thermal conductivity

B:-kinematic viscosity

C:-universal gas constant

D:-planck′s constant

Correct Answer:- Option-D

Question74:-Why are baffles provided in heat exchangers?

A:-To reduce heat transfer rate

B:-To increase heat transfer rate

C:-To remove dirt

D:-To reduce vibration

Correct Answer:- Option-B

Question75:-Kinetic energy of a gas molecule is zero at :

A:-0°c

B:-273°c

C:-100°c

D:--273°c

Correct Answer:- Option-D

Question76:-Cavitation will takes place in case of :

A:-pelton wheel

B:-rotary pump

C:-reciprocating pump

D:-centrifugal pump

Correct Answer:- Option-D

Question77:-Fog is formed due to:

A:-humidity
B:-low pressure
C:-temperature fall of atmosphere
D:-all of the above
Correct Answer:- Option-C

Question78:-Velocity head is given by :
A:-v/g
B:-$v^2/2g$
C:-$v^3/2g$
D:-$v^2/2g^2$
Correct Answer:- Option-B

Question79:-Inclined single column manometer is useful in the measurement of----------pressure.
A:-small
B:-medium
C:-high
D:-negative
Correct Answer:- Option-A

Question80:-To separate entrained liquid or solid in gas flow, we use a ----------.
A:-steam trap
B:-strainer
C:-drip leg
D:-open drain
Correct Answer:- Option-C

Question81:-One kilogram of water contains 4g of NaoH .The concentration of the solution is expressed as:
A:-0.1molal
B:-0.1molar
C:-Decinormal
D:-0.5 Normal
Correct Answer:- Option-A

Question82:-The first use of quantum theory to explain the structure of atom was made by:
A:-Heisenberg
B:-Bohr
C:-Planck
D:-Einstein
Correct Answer:- Option-B

Question83:-Which of the following relates to photon both as wave motion and as stream of particles?
A:-Interference
B:-$E=mc^2$
C:-Diffraction
D:-E=hv
Correct Answer:- Option-D

Question84:-A larger increase in reaction rate with small rise in temperature is due to:
A:-increase in number of activated molecules
B:-increase in number of collisions
C:-lowering of activation energy
D:-shortening of mean free path
Correct Answer:- Option-A

Question85:-The function of gypsum is to:
A:-start the setting of cement
B:-stop the hydration of cement
C:-retard the easily initial setting of the cement
D:-give the colour of the cement
Correct Answer:- Option-C

Question86:-If the temperature remains constant, the volume of a given mass of gas is inversely proportional to its pressure.this statement is known as:
A:-Boyle′s law
B:-Charle′s law
C:-Gay-Lussac law
D:-Joule′s law

Correct Answer:- Option-A

Question87:-The kinematic viscosity is the ratio of:

A:-viscosity to the density of the liquid

B:-mass to the density of the liquid

C:-viscosity to the specific weight of the liquid

D:-density to the specific weight of the liquid

Correct Answer:- Option-A

Question88:-Tooth paste shows a ----------type of flow behaviour

A:-Newtonian

B:-Ideal

C:-Bingham plastic

D:-Pseudo plastic

Correct Answer:- Option-C

Question89:-At critical speed in a ball mill:

A:-centrifugal force = gravitational force

B:-centripetal force = centrifugal force

C:-centrifugal force = pressure force

D:-centripetal force = gravitational force

Correct Answer:- Option-A

Question90:-Fractionating column is divided into two section,one is called as ----------section and other is called as ----------section

A:-evaporation; condensation

B:-boiling; cooling

C:-rectifying; stripping

D:-volatile; reflux

Correct Answer:- Option-C

Question91:-The rule of material balance always deals with the equality of ----------

A:-moles in and out

B:-volumes in and out

C:-masses in and out

D:-concentrations in and out

Correct Answer:- Option-C

Question92:-The driving force for crystallization is ----------

A:-temperature difference

B:-density difference

C:-viscosity

D:-super saturation

Correct Answer:- Option-D

Question93:-Pyrometers which react to all wavelengths of incident radiant energy are known as ---------pyrometers

A:-polarisng

B:-total radiation

C:-optical

D:-disappearing filament

Correct Answer:- Option-B

Question94:-The major limitation of the first law of Thermodynamics that it doesnot consider:

A:-heat as a form of energy

B:-rate of change of a process

C:-direction of change

D:-spontaneous process

Correct Answer:- Option-C

Question95:-Fourier′s law states that the rate of heat transfer per unit surface area is proportional to the ----------gradient normal to the surface.

A:-voscosity

B:-temperature

C:-pressure

D:-velocity

Correct Answer:- Option-B

Question96:-If there is a gravitational field acting on a fluid , then at any local region of the fluid the

gravitational force per unit volume is the product of acceleration due to gravity and-------

A:-density
B:-viscosity
C:-velocity
D:-specific volume
Correct Answer:- Option-A

Question97:-The most effective heat exchanger is ----------

A:-the parallel-flow type
B:-the counter-flow type
C:-the cross-flow type
D:-all of the above
Correct Answer:- Option-C

Question98:-The ratio of the emissive power of a body to the emissive power of a black body at the same temperature is ---------to the absorptivity of the body

A:-not related
B:-not proportional
C:-lower
D:-equal
Correct Answer:- Option-D

Question99:-Force by inertia is a product of mass and:

A:-shear stress
B:-area
C:-pressure
D:-acceleration
Correct Answer:- Option-D

Question100:-Free convection arises from the----------differences between the fluid in contact with a surface and the surrounding fluid.

A:-density
B:-viscosity
C:-mass
D:-volume
Correct Answer:- Option-A